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# ARYAN PHILOLOGY

ACCORDING TO

THE MOST RECENT RESEARCHES

(GLOTTOLOGIA ARIA RECENTISSIMA).

*REMARKS HISTORICAL AND CRITICAL.*

By DOMENICO PEZZI,

MEMBRO DELLA FACOLTÀ DI FILOSOFIA E LETTERE DELLA R. UNIVERSITÀ  
DI TORINO.

TRANSLATED BY

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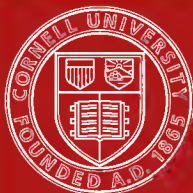
TO

GASPARE GORRESIO

WITH RESPECT AND GRATITUDE

BY THE AUTHOR

SEPTEMBER 30, 1876.



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## TRANSLATOR'S PREFACE.

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AN apology is perhaps due for the title of this translation. Of the alternative renderings 'Glottology' and the more familiar and for better or worse established 'Philology' I have with some hesitation chosen the latter; and in the text, wherever they occur, the words 'glottologo' and 'filologo' appear as 'philologist' and 'scholar' respectively. The epithet 'Aryan' as against 'Indo-European' or 'Indo-Germanic' I felt I had no right to alter.

In making the translation I have had the advantages of the author's latest corrections and additions. Any remarks of my own have been given in foot-notes enclosed in square brackets. In many of the quotations from other than Italian writers I have sought where opportunity offered to ensure a faithful representation of the sense by consulting the originals.

E. S. R.

GONVILLE AND CAIUS COLLEGE,  
CAMBRIDGE.

*January, 1879.*



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## PREFACE.

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AUGUST SCHLEICHER in the second edition of his well-known *Compendium*, published in 1866, and translated by me in great part into Italian, described with wonderful precision, order and clearness the results of the investigations made by a historical and comparative method in the preceding fifty years on the subject of that linguistic stock which he with nearly all the German scholars called 'Indo-Germanic,' and which I with several illustrious masters of our science, for want of a positively better term, call 'Aryan' or 'Indo-European.'<sup>1</sup> Theodor Benfey, in his *Geschichte der sprachwissenschaft*, was unable to carry the narration beyond 1867. To continue, as far as my powers permitted, the work of those two most learned scholars, tracing the progress of research on the field of the Aryan languages from 1866 to the present year, is the task which I have set myself in writing this book. But it is well to observe at the outset that it is my intention to discuss only those works which concern, more or less

<sup>1</sup> See my *Introduction à l'étude de la science du langage*, Paris, 1875, pp. 146-8, 213-6 (note).  
*trad . . . . . par V. Nourisson,*

directly, the entire Aryan stock, considered in itself and in its supposed relations with other stocks of languages. I have, therefore, excluded from our examination all researches which extend only to some one part of the Indo-European languages and all those which belong to the widest circle of general philology: for this reason I have not spoken, for example, either of the works of Corssen on the ancient languages of Italy, or of the studies on comparative syntax of which G. Gabelentz gave us a specimen. I am, moreover, far from presuming to have achieved, within the limits mentioned, a work in every way complete, as was indeed my most lively wish: 'because sometimes I have not had the means at hand, from inability to consult all those works without exception to which I have felt the need of referring in the composition of the present book.<sup>1</sup> I may nevertheless affirm, quoting in proof this work itself, that I have had at my disposal the majority of the works, principally German, which were able to serve my purpose at all. For this my thanks and acknowledgements are due especially to the National Library of Turin, which is presided over with a keen love of science by the distinguished man to whom I have chosen to dedicate this book, in

<sup>1</sup> Among the reviews of which, for the reason mentioned, I have not been able to avail myself, may be mentioned the *Revue de linguistique et de philologie comparée*, the *Jenaer Literaturzeitung*, the *North British Review*, [see however note on p. 99.—*Tr.*],

to which might be added some others. Of some of them it was not possible to procure even a number containing matter, generally of a critical kind, which it was very important to be able to consult.

order to attest, as far as lay in my power, my homage to the illustrious Indian scholar who honours the Italian name, and my gratitude to one among the few eminent men whose word and example have been to me and to several others a powerful stimulus to the work, and have given us, in days both of joy and of sadness, undoubted and uncommon proofs of affection. And as I have consulted without stint of time or trouble as many works as I have found ix useful for my object, so I confidently believe that neither many nor great lacunæ will be noticed in this book. And it is therefore much less in view of these than of the compendious nature of the exposition, by which I have been compelled to confine much matter in a small compass, that it has appeared to me expedient to prefer to any other title the very modest one of *Remarks*. And I have called them *Historical and Critical*,<sup>1</sup> because it has been my intention to make known not only the methods followed and the results obtained by the most recent investigators, and the relations existing between these and the preceding researches on the stock of the Aryan languages, but also the opinions which have been advanced on the worth of the new researches by learned critics and not unfrequently also my own view. And to this end I have been desirous that my constant rule, together with full independence of thought and perfect impartiality, should be a profound respect for the persons whom I have had to notice and for their opinions, and a lively dislike

<sup>1</sup> Historico-critici.

PREFACE.

of those hasty judgements, by which, from puerile impatience or ridiculous vanity, the attempt has been and is often made to put an end to the discussion of problems whose hour of solution has not yet come. Among the various forms which might have been given to the exposition I have naturally, as far as possible, always adhered to that which seemed to correspond best to the degree of philological knowledge peculiar to the students for whom I was writing: who, while they do not rank among the masters of the science of language, yet are not among the number of those who are ignorant of its elements.<sup>1</sup>

If the work does not fall far short of the intentions with which it was compiled, I may be allowed to hope that it will not be without use to the progress of linguistic studies, especially in Italy. And in the first place I trust that it may be of advantage by diffusing the knowledge of new truths and new hypotheses, not only differing from, but essentially contrary to, those which have been masters of the field up to our days, and by inviting and so to speak forcing the followers of this study to fresh discussions. Nor will this seem a slight advantage to any one who considers attentively the state of

<sup>1</sup> The convenience of readers has been consulted also by numerous bibliographical notes and by two indexes, one of which points out the subject of each of the paragraphs, the second the names of the authors of whom

some writing is mentioned in this book, or even some opinion only. The first of the two indexes, and the slight bulk of the present volume seem to us to render superfluous an alphabetical index of subjects.

philological studies in Italy. They have certainly nothing to fear from that discreditable band of pedants which here as elsewhere does its best to oppose every innovation in the intellectual order: many times before now has that vanity, which would induce a belief of its own importance, been passed over by the triumphal car of science. It may be added that the directors of public instruction have not unfrequently exhibited open favour in various ways to the teaching of philology. But there is a danger which seems to me to menace not a few among those who take delight in these studies: the blind inactive unproductive faith in certain results of philological investigations, which, although by no means decisive, have nevertheless been generally elevated to the dignity of dogmas all doubt as to which appears to many now to be rash. For the avoidance of this danger every one sees how valuable is the accurate and impartial examination of the objections which have been raised against these theories and of the doctrines which others have attempted to substitute for them. In the second place there is no one who would venture to deny that a necessary preparation for fresh researches is an accurate study of the modern condition of the science. Lastly, it will appear from our *Remarks Historical and Critical* how rare has been, even in the last few years, the co-operation of Italians in the scientific researches of which the present book gives the history. Neo-<sup>xi</sup> Latin philology boasts it is true among us not a few students and we could easily mention several names

of young men already known for useful labours after those of G. I. Ascoli, the worthy founder and director of the *Archivio glottologico italiano*, the illustrious author of the *Saggi ladini*, and of G. Flechia, who for many years has been investigating with such enthusiasm, persistency, learning, strictness of method and delicacy of analysis, the history of the Italian word in the wonderful variety of the dialects, and whom I pride myself on having had as master. Towards the promotion of the really scientific study of the classical languages and the necessary and urgent rational reform in the teaching of them in the secondary schools we have already seen the activity of several Italians directed,<sup>1</sup> while others have devoted themselves to Indian philology, which is so closely connected with the new science of the Indo-European languages, and which we could wish was not lacking in a professorial chair in some of the most deservedly esteemed of our universities. But in that kind of linguistic studies to which this book is devoted, and which I would call studies of general Aryan philology, the Italians have only a single work which deserves to be placed beside the best among the many works in which learned and indefatigable Germany has recently been so prolific, the *Corsi di glottologia* of Ascoli, of which we possess as yet only the first number. And of this poverty of ours the causes are various: because

<sup>1</sup> I may be allowed here to mention my *Grammatica storico-comparativa della lingua latina*, published towards the end of 1871.



sometimes goodwill fails from defect of learning, of scientific education, of subsidies necessary to the investigation ; sometimes, on the other hand, genius and knowledge abound to no purpose, because the intellectual labour is not attended by a well-defined object and perseverance in investigation. Over such facts patriotism requires us not to spread a veil with <sup>xii</sup> a foolishly tender hand, but to shed light, to the end that they may be clearly apparent to all those who can in any way contribute to remedy them and whose co-operation is still wanting. To them may this book be a fresh invitation.

If further to the preceding considerations may be added that of the long and difficult labour which this book costs, there will then be a new and powerful ground of hope that it will be received by scholars with indulgent kindness.

Having been courteously requested to give my consent to an English translation of this book, I have accorded it with delight and with gratefulness to the Cambridge student who has sought to confer this honour upon my work. For I regard as a distinguished honour its translation into a language so widely spread in the two worlds and its introduction into the scientific literature of a people to whom philology owes so much, especially from the study of the ancient language of India. And I shall welcome with the respect which they deserve the opinions which serious English criticism will, I trust, be pleased to pass on this work.

D. PEZZI.

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# ARYAN PHILOLOGY.

## PART I.

### CHAPTER I.

#### Sounds.

§ 1. In the first part of this book, the part in which we shall discuss the individual elements of the Aryan languages, and in the first place the sounds, we rejoice that it is our duty to begin with the praises of a distinguished Italian philologist, who appears in the foremost rank among those who have continued the work admirably begun by Bopp, by J. Grimm, by Pott, by Diez. The *Corsi di glottologia*<sup>1</sup> of G. I. Ascoli, as may be clearly seen from the first instalment, form a work such that even German science might well be proud of it. They will comprise “*Comparative phonology of Sanscrit, Greek and Latin*,” “*General introduction to morphology*,” “*Comparative morphology*” of the three languages mentioned, and “*Iranian phonology*.” “Far, however, from confining myself,” writes the author,<sup>2</sup> “rigorously within the restricted limits of the<sup>2</sup> three languages, I shall, in the Italic province, constantly

<sup>1</sup> *Corsi di glottologia dati nella R. Accademia scientifico-letteraria di Milano*, Vol. i. *Lezioni di fonologia comparata del sanscrito, del greco e del latino*, Torino e Firenze, E. Loescher, 1870, Part i. pp.

i-xvi. 1-240. For the scientific life of Ascoli, see the *Cenni sopra alcuni indianisti viventi* of De Gubernatis, Firenze, 1872 (extracted from the *Rivista Europea*).

<sup>2</sup> *Ibid.* pp. 2-3.

have regard also to the deciphered remains of Oscan and Umbrian, and to the Neo-Latin or Romance dialects; I shall not neglect Modern Greek, and I shall allow myself further to trench also upon the other regions of the Aryan world, as often as it may seem useful and appropriate for the illustration of those three which have been more especially assigned to us." For reasons both pædagogic and scientific Ascoli does not propose, like Schleicher, to "deduce the Sanscrit, the Greek or the Latin form from the corresponding Proto-Aryan form:" he takes his starting-point from the Sanscrit form which in general remained most faithful of all to the primitive type; "but," he writes, "in comparing together these three historic forms we shall not, for all that, ever omit to push our investigation as far as their common source."<sup>1</sup> What a task the illustrious philologist has set himself in the composition of his work is clearly seen from the following words which we read in the *Preface*: "The ideal was this: to lead him who followed me, point by point, from the first elements to the ultimate niceties of knowledge, without making him experience any sudden shock, without any sacrifice of clearness, without letting the exposition run counter to that natural continuity which exists in the manifold developments of the primitive germs."<sup>2</sup> The first instalment, which as yet has not been followed by another, contains six lectures, the last being incomplete: in the first are put forth some *Preliminary remarks*; the subject of the 2nd and of the 3rd is *The guttural tenuis*; of the 4th *The guttural media*; in the 5th are discussed *The aspirates in general* and *the guttural aspirates* in particular; in the 6th are treated the *palatals and linguals*. This first sample  
 3 of Ascoli's work, rich in important researches and splendid promises, was greeted with good reason by the most competent critics with candid and ready welcome.

<sup>1</sup> Ibid. pp. 5-9.

<sup>2</sup> Ibid. p. ix.

Suffice it to mention the judgments of Benfey<sup>1</sup> and of Schweizer-Sidler,<sup>2</sup> who consented to revise the German translation of Ascoli's book by Bazzigher:<sup>3</sup> an unwonted and deserved compliment. And to these judgments we might add that of Whitney, who regarded as much to be deplored the delay in the promised continuation of the work of Ascoli;<sup>4</sup> and that of the French "Académie des inscriptions et belles lettres," which, on the 29th of July 1870, honoured with a prize the *Lectures* (Corsi), although as yet incomplete, of the Italian philologist.<sup>5</sup> And indeed the portion of them published is indubitably, as Schweizer-Sidler well remarked, one of the most important works which have appeared during the last few years in the course of the historical investigation of the word. The results of the preceding researches are there seen not only collected and expounded with diligence and exactness, but also subjected to a prudent and independent criticism, and augmented by the researches of the author, at whose uncommon breadth of learning and rare power of analysis and synthesis we are again and again forced to marvel. The exposition of Ascoli puts before us not only the results of the investigation, but the entire progress of this investigation itself, portraying with a fidelity which we might call photographic, all the intellectual labour of the author, and training us to scientific research. The style and language<sup>4</sup> of Ascoli have been frequently, at least in private conversations of Italian scholars, made the subject of vigorous

<sup>1</sup> *Göttingische gelehrte anzeigen*, 1870, i. 793-98.

<sup>2</sup> *Zeitschrift für vergleichende sprachforschung*, etc., xxi. 257-66.

<sup>3</sup> *Vorlesungen über die vergleichende lautlehre des sanskrit, des griechischen und des lateinischen*, etc. I. Halle, 1872.

<sup>4</sup> *Rivista Europea*, anno 4<sup>o</sup>, I. 640.

<sup>5</sup> The researches into the Romance dialects more recently given to the public by Ascoli in the *Archivio glottologico italiano*, established and conducted by him, won him two more prizes, viz., the Bopp prize in 1874, and in the following year the first prize of the Society for the study of the Romance languages at Montpellier.

criticisms. It is not our intention to maintain that in the book under discussion, and in the other writings of the distinguished philologist, the form is always both clear and pure, and genuinely Italian: but it appears to us right and proper to observe that, besides the merits of exactness and thoroughness which no-one could deny, it must be especially commended as far as regards Italian linguistic nomenclature, which Ascoli has enriched by some technical terms almost all chosen and employed with the happiest daring. We cannot, and we will not, disguise the fact that Ascoli's method does not seem to us the most fitted to initiate the profane into the first studies of philology: but, when any one has begun to read the pages of Ascoli *con amore*, we believe it may with reason be said that he has learnt much.

Among the subjects treated by the author, one appears to us particularly worthy of attentive consideration—the history of the *guttural tenuis* (Lectures 2nd and 3rd, pp. 27—95). In the exposition we will follow as far as possible Ascoli himself, availing ourselves frequently of his words.<sup>1</sup> The most notable transformations of this sound in the Aryan languages may be represented by three phonological equations, of which the first is the following: Sanscrit and Zend  $\zeta$  = Lithu-Slavonic *sz*, *s* (Lithuanian *sz*, Slavonic *s*) = Greek and Latin *k*. Example: Sanser. Zd. *çata-* [cento] = Lith. *szim-ta-s*, Bulgarian *sŭto* = Gr. *ἑ-κατό-ν*, Lat. *centu-m*. This equation shows us the Proto-Aryan *k* weakened to a sibilant in Indian, Iranic, Lithuanian, and Slavonic, but preserved exempt from such alteration in the other languages of our stock. As Ascoli

<sup>1</sup> For the physiological analysis of this sound, and of the cognate sounds, see the quite recent essay of Sievers, *Grundzüge der lautphysiologie zur einföhrung in das studium der lautlehre der indogermanischen sprachen*, Leipzig, 1876, pp. 59-62.

We invite the attention of students also to the *Phonetische streitfragen*, published by Hofforg in the *Zeitschr. f. vgl. sprachforsch.*, xxiii. 525-58.



teaches us, the Indo-Irano-Lithu-Slavonic agreement is general both with regard to the examples in which the ancient *k* has been reduced to a sibilant sound, and with regard to those in which it has been preserved, while "to the Italic, the Greek, the Keltic and the Teutonic groups, all pro-ethnic coincidence of any one at all of their sibilants with the Indo-Iranian sibilant (*ç*) for an original *k* is foreign. The coincidences which nevertheless do exist, are here . . . . . manifestly accidental, due, that is, to pathological congruence (*congruenza patologica*), and not to historical continuity."<sup>1</sup> This "special resemblance between the Indo-Iranian and the Lithu-Slavonic, which it is altogether impossible to call fortuitous," can be explained, writes Ascoli, only in two ways; either by supposing the corruption to have taken place in a period of pre-historic Indo-Irano-Lithu-Slavonic unity (a hypothesis, which certain phonetic and lexical facts seem to support, but subject to the most grave objections); or else by imagining that the original *k*, slightly affected by a parasitic fricative<sup>2</sup> "in a definite number of instances, even from the Proto-Aryan period, afterwards freed itself, in some languages, from this corruption, and in others on the contrary by consistent development of the ancient affection, underwent consistent changes, which would represent effects similar but independent one of the other of the same cause. On this hypothesis, the word for *dieci* (Ital.), for example, would have

<sup>1</sup> *Corsi di glottologia*, etc., I. 50.

<sup>2</sup> "One of the most frequent affections of the original consonants is, in the Aryan system, the striking root after some of them of a parasitic fricative, and especially *j* (*nj*, *lj*, *kj*, etc. . . ) . . . meanwhile we will here make the general remark that the origin of these sounds, which we call parasitic, really lies in the fact that in passing from the

position of the mouth, which is required for the production of a given consonant, to the different position which is necessary for the utterance of the sound which immediately follows, and is, as a rule, a vowel, there is touched upon or brought about that position by which is produced the fricative which we call parasitic. . . ." Ibid. p. 43.

been, in the period of unity, with a slight corruption of the *k*, *dak<sup>i</sup>a*; whence, on the one hand, the type *daka*, the restored type as it were, to which Greek, Italic, Keltic, and Teutonic would ascend again; and, on the other hand, the type *dakya*, with the intruding parasite, to which would revert the two words with the sibilant, the Lithu-Slavonic and the Indo-Iranian."<sup>1</sup> And this seems to the author a "safer hypothesis than the other," although he by no means disguises an objection which may be raised against it.—The 2nd equation is as follows: Sanscr. and Zd. *k*' = Gr., Lat., Lithu-Slav. *k*; as appears from Sanscr. and Zd. *ruk*' = Gr. λευκ(ό-ς), Lat. *luc(-s)*, from the Sanscr. *ka'ka* [hair] = Bulg. *kǔkǔ*, etc. The complete harmony between Sanscrit and Zend in the series of the examples for *k*' = primitive *k* shows us that such *k*' points back to a pre-Indian period, or it may be to the Indo-Iranian age. "To set off against this, there is not, with respect to the phenomenon of Indo-Iranian *k*' for original *k*, any European agreement, which can be imagined to stand in genealogical connexion with this phenomenon; in other words, there is not a single fact which may induce us to believe this alteration to have been effected in an epoch anterior to the complete severance of the European branch of Aryan from the Asiatic, although there are remarkable quantitative (not qualitative) coincidences . . . which lead us to believe that the original *k*, afterwards becoming Indo-Iranian *k*', was corrupted and damaged in a definite number of examples, even from periods far more remote than the Indo-Iranian, but that it was not, nevertheless, as yet, in these periods distinctly altered."<sup>2</sup> And now we come to the 3rd equation: Sanscr. and Zd. *k*' = Gr.-Lat. *kv* = Lithu-Slav. *k*;

<sup>1</sup> Ibid. pp. 56-7.

<sup>2</sup> Ibid. pp. 48-9. Afterwards, in the table given on p. 193, the Indo-Iranian *k*', to which in Greek,

Latin, and Lithu-Slavonic an unaltered *k* corresponds, is referred to a later type *k<sup>i</sup>*.

we may take as an example the Sanscr. *k'atvar-*, Zd. *k'athwar-*, comp. Gr. τέσσαρες (*\*k'gethvar-*, *\*τῷεθφαρ-*)<sup>1</sup> = Lat. *quatuor*, Æolic Gr. πέσσυρες (*\*k'pethvor-*, *\*πεθφυρ-*) Kymr. *petuar*, Osc. *petor-a*, Umbr. *petur-* = Lith. *ketur̄*, Irish *cethir*.<sup>2</sup> In this example, and in four others, "we do not find, on the one hand, any certain trace of the *v* in the Asiatic words, nor have we, on the other hand, any reason which may lead us to assert, or at least render us inclined to believe, that the *v* is an etymological element, that is to say an original constituent of the word. Hence the *v* will here be a parasite, in kind not unlike the parasitic *j*, which in its proper section (§ 14) we saw to be developed in like manner after the original guttural tenuis; nevertheless it, too, will be a *v* of very ancient origin, and what should suffice to make us abundantly convinced of the fact is the agreement which several European languages exhibit in reverting in these same examples to an ancient *kv*. To this we subjoin the very remarkable fact that they all show, in the Indo-Iranian equivalent, not the pure *k*, nor the *ç*, which is the most frequent Indo-Iranian representative, as against the European representatives, of the original guttural tenuis, but in fact the *k'* alone, the most unusual sound (§§ 11, 12). This coincidence, supported also by other parallels . . . , convinces us that here we have to deal with . . . original *k*-sounds which were affected even from the Indo-European age, but in an indistinct manner, so that the development of the affection was determined afterwards in the successive ages in various ways. If, therefore, in the consideration of the sibilant which in the Indo-Iranian and in the Lithu-Slavonic branch is held as the successor of the original guttural tenuis (p. 56), we were to propose the typical example *dak'a* ([ten],

<sup>1</sup> In Ascoli's work the *z* represents a sound identical with that of the French *j*: the *š* answers to the

Italian *sc* [Engl. *sh*], e.g. in *scemo*. See pp. 13 and 22.

<sup>2</sup> *Ibid.* p. 92: cf. 77, 73, 53.

whence *dakja dakža daša dača*), then, for the examples in question, we should have to figure to ourselves a typical example which might be written *kʷatvar* [four], the indefinite parasite of which (something like a Greek *v*) came to assume among the Indo-Iranians, in a period relatively modern, the palatal pronunciation (*kjatvar-*, whence *kʷatvar-*, *čatvar-*, see p. 44), and among the Europeans, on the contrary, or at least among those whose dialects reflected an ancient *kv*, halted as a rule (see § 21) at a labial or labio-dental pronunciation (*kvatvar-* *kvatvar-*, whence *quatuor* and *\*kʷator*, etc)<sup>1</sup>. In this way we should have in the Indo-Iranian branch the full development, but certainly not co-temporaneous, of both of the affections (*dakʷa dača*; *kʷatvar kʷatvar*), which would be resolved into one and the same affection with twofold result; and the development *kʷatvar kjatvar* would come to coincide with the *kj* (*kʷ* from *k*) which sprang from the unimpaired stem in the Indo-Iranian period . . . .; while in the European section we should have the type *dakʷa* restored everywhere else but in the Lithu-Slavonic branch and the not very numerous examples of the type *kʷatvar*, on the other hand, restored precisely in the Lithu-Slavonic branch (e.g. Lith. *ketvuri* . . .), as in a different way they are restored besides in Ireland . . ., and sometimes . . . also elsewhere."<sup>2</sup>

Not at all unlike is the history which Ascoli traces of

<sup>1</sup> The phonetic group *kv*, by the progressive change of the continuous sound *v* into the explosive labial surd under the influence of the preceding explosive surd sound, which it eclipsed, became transformed gradually into *ʷb*, *ʷp*, *ʷp*, *p*: hence, beside the Latin *qv*, we have the Greek, Oscan, Umbrian and Kymric *p*. See *Ibid.* pp. 71-8.

<sup>2</sup> *Ibid.* pp. 84-5.—The best proof of the *kʷ* = European *kv* and Asiatic *kj* (*kʷ*) is, in Ascoli's view,

the Greek  $\tau$  = *kj* from *kʷ*, beside  $\pi$  = *kv* from *kʷ*: ". . . the product of *kj*, when it has reached that stage in which the guttural tenuis is reduced to such conditions that it is hardly distinguished from the dental tenuis (*kg' tg'*, pp. 44-5), might have rested at the latter sound, and little by little the palatal or lingual addition would have vanished from it, so that *t* remained in place of the original *k*" (p. 92).

the guttural media (*g*) and of th aspirate (*gh*): the various changes of which in the Aryan languages he explains with the help of the hypothesis just referred to. We may, however, pass over them in silence in this brief treatise and proceed at once to critical considerations touching the doctrine of Ascoli which we have set forth.

Let us begin with the following words from the pen of that learned philologist and mythologist, M. Bréal: "We do not know, in phonology, an instance of a sound which after having been changed has reverted to its primitive purity;<sup>1</sup> moreover the hypothesis of Ascoli only serves to shift the ground of the problem, because, though it points out for what reason the change is found in the same words in Slavonic and Sanscrit, it does not enable us to understand the principle on which the restoration takes place uniformly in Latin, in Greek, in Gothic, in Keltic."<sup>2</sup> Another objection is started by Schweizer-Sidler himself, who remarks how ill the theory of Ascoli under discussion can be reconciled with the doctrine of a special affinity of Slavo-Lithuanian with Teutonic; a doctrine maintained by A. Schleicher and his most learned pupils.<sup>3</sup> Jolly, too, finds fault with Ascoli's hypothesis, deeming it too complicated: "not only the symbols, *k*<sup>i</sup> and *k*<sup>v</sup>, selected by him to denote the two affections which he attributes to the primitive *k*, but also the hypothesis itself of a mere affection instead of a primordial duality of the ancient *k*, are artificial, and this last supposition led him further to the opinion, still more unlikely, that the impaired *k* had in some languages been restored, healed." "Besides," continues Jolly, "why should the *k* have developed after itself a parasitic sound?"<sup>4</sup> Windisch admits the transformation of *k*<sup>v</sup>

<sup>1</sup> See, however, Ascoli, *Studi Critici*, ii. Roma-Torino-Firenze, p. 28.

pp. 357-61.

<sup>3</sup> *Zeitschrift f. vergl. sprachforschung*, xxi. 257-66.

<sup>2</sup> *Revue critique d'histoire et de littérature*, 5th year, 1st semester,

<sup>4</sup> *Noch einmal der stammbaum der indogermanischen sprachen*

into  $k^i$ , at least as an expression of a change of  $k^2$  into  $k^1$  (these symbols will be remarked on shortly): but believes such a phenomenon to have come about without parasites.

“Physiologically considered it consists only in a slight alteration: the enclosure formed by the back of the tongue with the palate in the production of the guttural is gradually forced more and more forward from the soft hinder parts of it.

<sup>10</sup> Hence there results at last a position, just where the palate and the gum touch each other, in which no longer even a  $k^1$  can be pronounced, but only a  $t$ -sound<sup>1</sup> and the so-called palatal  $k'$ . And he denies that the Kymric  $p$  always appears regularly where, according to Ascoli's hypothesis, we should have the right to expect it.”<sup>2</sup>

As the reader will have observed in the foregoing remarks, the objection, which assails most strongly the hypothesis of the Italian philologist, is derived from that great phonetic law, which teaches us that a sound when corrupted, far from reverting to its primitive entirety, tends to become constantly more corrupted. And here we are indeed in that part of the domain of language in which the inexorable fatality of the phonetic laws rules with absolute power. To Italians it recalls Manzoni's simile of the rock, which will lie immovable in its sluggish mass where it fell headlong, unless a friendly power comes to raise it aloft. And we seek and seek again, but ever idly, the friendly power to restore the impaired sound in Ascoli's hypothesis.

§ 2. The obstacles, which oppose themselves to the derivation of the various sounds referred to from a single Proto-Aryan  $k$ , induced other philologists, and, so far as we know, first among them Fick,<sup>3</sup> whose important lexical labours we shall mention later on as they deserve, to suppose a

(*Zeitschrift für völkerpsychologie und sprachwissenschaft*, viii. 190-205).

zur *vergl. sprachforschung*, viii. 1-48).

<sup>1</sup> The dorsal  $t$ , Brücke's  $t^3$ .

<sup>3</sup> *Die ehemalige spracheinheit der Indogermanen Europas*, Göttingen, 1873, pp. 2-34.

<sup>2</sup> *Verlust und auftreten des p in den celtischen sprachen* (*Beiträge*

double primitive guttural tenuis. He hopes to be able to demonstrate that our linguistic stock, both in its entire pre-ethnic period, and partly also in the several languages, possessed two surd guttural sounds, completely distinct from one another (like the Semitic), of which two sounds the one is represented in Indo-Iranian by *k* and by *c*,<sup>1</sup> the other by *ç*, and between these almost no contact took place, while partly in Greek and Italic, almost completely in German, they became fused into one sound. For the sake of brevity he denotes these two sounds by the symbols *k̄* and *k̆*, and he puts before us their changes in the various families of the Aryan dialects. He throws into relief, in the Indo-Iranian, the affinity existing between *k̄* and *c* and the difference between *k̄* and *ç*, considering *c* as a successor of *k̄* and observing that there is not, on the other hand, an assured instance of *ç* derived from *k̄* and used in place of it, and that herein, with very rare exceptions, Slavo-Lithuanian also agrees with Indo-Iranian. The various ways in which the two sections of the Keltic languages represent the Proto-Aryan *k̄*, which in Old Irish is regularly reflected by *c* (*ch*), while in Welsh it is refracted sometimes into *c*, sometimes into *p*, lead Fick to the opinion that in the primitive Keltic there existed two *k̄*-sounds, which in Irish became fused into a single sound (*c*), in Welsh maintained themselves distinct and became *c* and *p*. Hence the two equations: 1st. O. Ir. *c* = Welsh *p* = Indo-Iran. *k̄* and *c*; 2nd. O. Ir. *c* = Welsh *c* = Indo-Iran. *ç* = Lith. *sz* = Sl. *s*. The first sound, which, becoming *c* in Irish and *p* in Welsh, must have had a power intermediate and wavering between *c* and *p*, may be expressed, according to Fick, by *kv*: the power of the second can only have been *k̆*. In Greek and in Italic the primitive *k̆* appears represented by *kv* (and by the sounds which this group originates) and also by *k̆* (cor-

<sup>1</sup> The *c* of Fick corresponds to other linguists in the transcription of the *k̆*, used by Ascoli and many the Indo-Iranian languages.

responding to an older *kv*): of the Proto-Aryan *k<sub>c</sub>* (Indo-Iran. *ç*=Lith. *sz*=Church-Sl. *s*=Ir. *c*=Welsh *c*) the successor is *k*. In Teutonic the primordial difference between the two guttural surd sounds of the fundamental Aryan is <sup>12</sup> for the most part obscured by the 'lautverschiebung':<sup>1</sup> the one and the other we find represented by *h*, while this asperate does not discover to us its origin from *k* or from *k<sub>c</sub>*. Only in a few instances does initial or final *hv* show us that, in this family also of Aryan dialects, the *k* corresponding to the primitive *k* undergoes the change to *kv*. In Slavonic the Proto-Aryan *k* appears well marked only in the group *sk*.

Fick's hypothesis of the double primitive *k* was received with favour by several philologists, among whom we would first mention G. Curtius, who, to remove all doubt with respect to the genealogical tree of the Aryan languages, considers himself bound "with Fick to suppose for the Indo-Germanic period a double *k*, or, to be brief, a guttural *k* and a palatal *k*."<sup>2</sup> Havet, too,<sup>3</sup> believes in the existence of the two Proto-Aryan guttural surds, which he represents by the symbols *k<sub>1</sub>* and *k<sub>2</sub>* and to which he attributes in the primitive and fundamental Aryan the same sound which they had in Latin, pronouncing *k<sub>1</sub>* (= *k<sup>o</sup>* of Ascoli, *k* of Fick) as *kw*, *k<sub>2</sub>* (= *k<sup>i</sup>* of Ascoli, *k<sub>c</sub>* of Fick) as *k*. But he sees in the development of a parasite after the explosive the effect, not the cause, of the original change of the consonant in question. The change of *k* into *k'* is, in his opinion, prior to all formation of a parasitic sound.

<sup>1</sup> See the *Deutsche grammatik* (Part i. Book i. Göttingen, 1822) and the *Geschichte der deutschen sprache* (Leipzig, 1848, pp. 392-434) of J. Grimm.—See also M. Müller, *Lectures*, etc., 2nd series, London, 1864, Lect. v.; Helfenstein, *A comparative grammar of the Teutonic languages*, London,

1870, pp. 99-104.

<sup>2</sup> *Griechisch τ und skr. k'* (*Studiën zur griechischen und lateinischen grammatik*, vii. 265-72: see p. 267).

<sup>3</sup> *L'unité linguistique européenne. La question des deux k arioeuropéens* (*Mémoires de la Société de linguistique de Paris*, ii. 261-77).



He then proceeds to show how, by means of successive corruptions, the two Proto-Aryan *k*-sounds became changed in 13 such a way that it was possible for them to be confounded. The change of the primitive explosive guttural surd into a sibilant, a change which we see in several Indo-Iranic words and in the Slavo-Lithuanian words corresponding to them (as we have just now seen), took place, if we believe Havet, separately in each of the two sections of the languages mentioned, just as, e.g., the *c* (Lat. *k*) of *centum* was sibilised in the *c* of the French word *cent* quite independently of the *ç* of the Old Indian and Zend *çata*<sup>-1</sup>. Hence he proceeds to demonstrate the existence of the double *k* in the Proto-Aryan period by the following equations: 1st.  $k_2 = \text{Graeco-Italo-Keltic } k, \text{ Teutonic } h (k) = \text{Indo-Iranian } \check{s} \text{ (corresponding to our } \check{c}), \text{ Sl. } s, \text{ Lith. } \check{s} (k)$ ; in all these languages in the most ancient form the sound was *k*: hence it was *k* before the separation. 2nd.  $k_1 = \text{Gaelic } k, \text{ Kymric } p = \text{Pan-Keltic } kw; k_1 = \text{Lat. } kw, \text{ Osco-Umbrian } p = \text{Pan-Italic } kw; k_1 = \pi, \text{ Ion. } \kappa = \text{Pan-Hellenic } kw$ : hence  $k_1 = \text{Graeco-Italo-Keltic } kw - k_1 = \text{Teutonic } hv (kw), f (p, kw), h (k) = \text{Proto-Teutonic } kw; k_1 = \text{Lithu-Slav. } k, \text{ sometimes } kw, p (kw)$ : hence  $k_1 = \text{Teutono-Lithu-Slavonic } kw - \text{hence } k_1 = \text{European } kw - k_1 = \text{Indo-Iranic } k, k' (=k' \text{ of the more usual transcription}), \text{ sometimes } p (kw), kw$ : thence  $k_1 = \text{Indo-Iranian primitive } kw$ . Now, if  $k_1$  is  $=kw$  of Indo-Iranian and of the fundamental European, there results this last equation:  $k_1 = \text{Proto-Aryan } kw$ . The limits prescribed for our treatise do not allow us to follow Havet in the replies which he makes to several objections, and in the exposition of the advantages which he believes may be derived from his theory. Jolly himself

<sup>1</sup> “. . . La rencontre ario-slave est aussi fortuite que la rencontre ario-française et . . . nous n'avons pas plus à détacher le lettoslave du groupe européen que le français du groupe roman.”—Note that under

the term ‘Aryan’ Havet understands Indo-Iranian. In the belief that this wonderful coincidence is accidental the French philologist will not, we think, have many students of language on his side.

also, in the monograph quoted above, admits in Proto-  
 14 Aryan two *k*-sounds quite distinct from each other, the true physiological value of which we can with difficulty determine, because they have reached us only in one series of representatives. He, therefore, willingly accepts Havet's symbols: *k*<sub>1</sub>, *k*<sub>2</sub>. The fact, observes Jolly, that the written language had only one letter for the guttural tenuis, contributed unquestionably to confuse two sounds originally distinct. Nevertheless it should be remarked that the written language, whence the written letters used by the Aryan peoples took their origin, offered them two characters for the primitive sound *k*, by which they might well have indicated with accuracy its two different values.

Fick's hypothesis, well received and defended by the philologists mentioned, found a formidable opponent in that learned and acute inquirer Johann Schmidt, who subjected it to a severe examination, in his review of Fick's work on the ancient linguistic unity of the Indo-Germans of Europe.<sup>1</sup> Against Fick's theory of the primitive double *k* J. Schmidt observes, in the first place, that, by the confession of Fick himself, these two supposed Proto-Aryan guttural sounds coalesced in Teutonic almost always into *h*; frequently into *k* on Greek and Latin ground; in Irish they are not distinguished at all, nor are they always clearly discernible in Kymric. He goes on to quote examples of Indo-Iran.  $\zeta =$  Sl. *s*, Lith. *sz* reflected by Lat. *qv*, and of descendants of *kv*, corresponding to Sanser.  $\zeta$ , against the assertions of Fick. Further "the South-European languages and the German not only have often the simple *k* where Fick's rule requires *kv*, but also *kv* when the rule forbids it, *i.e.* the distinction between the two sounds in these lan-  
 16 guages is not generally complete." From the *Lectures* of Ascoli he learns that there is not always a well marked difference between the two *k*-sounds even in Indo-Iranian and in

<sup>1</sup> *Jenaer literaturzeitung*, 1874, pp. 201-4.

Slavo-Lithuanian. Therefore the development of *k* into *kj* (Sanscr. *ç*, Sl. *s*, Lith. *sz*) was still incomplete when a relation of continuity existed between Indo-Iranian and Lithu-Slavonic: much less complete must it evidently have been during the far more ancient period of the primitive Aryan unity. Moreover, observes our critic, every Proto-Aryan tenuis has side by side with it a media with an aspirate: thus we have *t, d, dh—p, b, bh*. Hence if we were bound to admit a primitive double *k*, we should have to expect also a Proto-Aryan double *g* and double *gh*, especially as the Indo-Iranic and the Slavo-Lithuanian dialects have sounds which we might look upon as descendants of the six sounds above named, *i. e.* Sanscr. *k, g, gh, h*, and *ç, g', h*; Old Bulgarian *k, g*, and *sz*; Lith. *k, g*, and *sz, z*. Now Fick is far from wishing to demonstrate in the primitive and fundamental Aryan the existence of a double media and a double aspirate corresponding to the supposed double tenuis *k*. Lastly, if the *k<sub>e</sub>* of Fick (= Indo-Iran. *ç*, Sl. *s*, Lith. *sz*) corresponded to the simple *k* (not *kv*) of the other European languages, the logical result would be that the Indo-Iranic and Lithu-Slavonic mediæ and aspirates of this tenuis ought to be represented in the other European languages by *g, gh*, not changed into *gv, ghv*: and this cannot be positively affirmed.

Bezenberger, in his critical remarks on the second part, recently published, of J. Schmidt's work, *Zur geschichte des indogermanischen vokalismus*,<sup>1</sup> has given expression to certain opinions concerning the present argument, which we do not think it right to pass by in silence. "In the fundamental Lithu-Slavonic language," he writes, "there <sup>16</sup> was not from the very beginning a sibilant as a substitute for the primitive *k<sub>e</sub>*, or a corruption of it, such as the Sanscr. *ç* is, or presupposes, but it was reflected by a simple *k*. This results—1st from its being represented by a simple *k* in the other European languages, 2ndly from the fact that this *k*

<sup>1</sup> *Göttingische gelehrte anzeigen*, 1875, pp. 1313-44.

has been preserved in some cases.”<sup>1</sup> “If in some cases,” he observes, “the development of the sibilant from  $k_c$  is a phenomenon of less ancient origin, it may be such in all the cases,” and accidental. Therefore the agreement of the Sanscr. and Old Bactr.  $\zeta$  with the Slav.  $s$  and with the Lith.  $sz$  is quite unimportant.<sup>2</sup> He then proceeds to examine some etymological views held by J. Schmidt in opposition to Fick, which seem to him of doubtful value. He thinks it very doubtful also that every tenuis must have side by side with it a media and an aspirate, as Schmidt supposes, and he quotes, by way of example, the labial media which is so rare, and has an existence so scantily demonstrated in the fundamental Aryan.<sup>3</sup>

It is clear from the foregoing exposition that, in spite of the efforts of Ascoli, of Fick, and of some other philologists, the history of the Proto-Aryan  $k$  has not yet been explained in such a way as to dispel all obscurity. For the final solution of the problem we still need fresh studies on the descendants of the sound in question. And the results of the fresh researches will be far more useful to philology than many people think, in that the problem, which we have discussed up to this point, is intimately connected, as will be seen later, with that of the special affinities which are generally thought to exist between the various families of the Aryan linguistic stock.<sup>4</sup>

<sup>1</sup> Windisch, *Beiträge*, etc. viii. 29.

<sup>2</sup> The second argument may be left to the judgment of the most authoritative students of the Lithu-Slavonic dialects. But, so far as concerns the first, we may be allowed to observe that it can hold good only on the hypothesis of a fundamental European language, the existence of which, as we shall see in the second part of this book, has not been yet proved in a way to satisfy the strict

but just exigencies of modern philology.

<sup>3</sup> Schleicher, *Compendium*, etc. Weimar, 1871, § 117.

<sup>4</sup> Our account of the most recent studies on the Indo-European  $k$  has been lately charged (who would have predicted it?) with violated perspective (Ascoli, *Studi Critici*, ii. 29)! The charge, however, is not accompanied by any explanation or proof, so that we do not even know whether linear perspective or aerial

§ 3. And it is for this reason that our attention is drawn to another consonant, the existence of which in the primitive and fundamental Aryan is still doubtful. We

perspective is meant! For the rest, while awaiting strong and clear arguments and fresh criticisms, especially from philologists who have not taken an active part in the discussion of this difficult subject, we leave unaltered for the present the order of our account, as we know no reason for changing it in any part or in any way.

[The subject of the Indo-European *k* has recently been exhaustively discussed by T. Le Marchant Douse (*Grimm's Law, a Study or Hints towards an explanation of the so-called "Lautverschiebung,"* &c., London and Strassburg, 1876, Trübner & Co.). See esp. pp. 134-75 in which the author describes and examines the doctrines of J. Schmidt, Fick, and Havet on this sound, and proposes a new explanation of the phenomena which it presents. He remarks (p. 138) that Schmidt (*Die verwandtschaftsverhältnisse der I. G. Sprachen*, Weimar, 1872) first applied "the phenomena exhibited by the primitive *k* to the denial of any such clear and decisive original separation as the 'period' theory (of Fick) asserts. Schmidt urges that the Li.-Sl. really agrees in some important points (as e.g. in the splitting or radiation of *a* to *u*, *e* and *o*, and in the evolution of *l* from *r*) with the European division; but in its treatment of *k* it agrees just as completely with the Aryan division. Li.-Sl. therefore belongs to both at once; and we are no longer justified in imagining any such

broad separation between the two as the 'period' theory requires." Fick makes an elaborate reply. "But," says Douse, "his treatment of the purely phonetic question is affected by two antecedent considerations: first, his determination to vindicate the 'period' theory in its most uncompromising form, so that his phonetic hypothesis holds a place completely subordinate thereto; and, secondly, his assumption throughout that the guttural peculiarities in question, although they did not originate, were yet developed, subsequently to the original Separation." And again, to account for two important facts, viz., "1st that the characteristic affection of *k*<sub>2</sub> (Havet's notation) has disappeared in the other dialects of Europe; and 2nd that a great majority of the *k*'s which, in these dialects, correspond to *k*<sub>1</sub>, and should, therefore, on Fick's hypothesis, exhibit the labial affection, actually exhibit no affection at all, but are, in fact, like the *k*'s representing *k*<sub>2</sub>, pure *k*'s." Fick invokes summary processes, *Verwischung* or 'Obliteration,' and *Verschmelzung* or 'Fusion,' in virtue whereof the Labial and Sibilant affections were cleared away in certain cases, and the result was the pure *k*. Douse objects that this *Verwischung* would be a violation of the 'Principle of Least Effort.' "It means that all the Europeans, except the Lithu-Slaves, on no limited scale, and for no apparent reason, raised a weaker sound to a stronger." Moreover one (among several) of the main ob-

mean the sound *l*.<sup>1</sup> Lottner<sup>2</sup> is of opinion that it was developed in that language from which sprang, according to his view, as so many distinct forms, but nevertheless in a particular way akin to each other, the Aryan languages of Europe. Schleicher would not include it in his table of the sounds of the Indo-Germanic mother-language, as he

jections to Fick's hypothesis is 'that it would leave the Holoethnic speech without a pure *k*.' The merit of Havet's hypothesis, says Douse, consists in the respect it appears to pay to the Principle of Least Effort. But he disagrees with Havet as to the relative value of *kw* and *k* pure, the latter of which Havet considers to be a debilitation from the former. Havet relies mainly on the history of *kw* (*qu*) in the Romance languages. Douse considers the doctrine unsafe. "On the whole, then, M. Havet's view of the relative strength of *kw* and *k* pure seems to me to be inconsistent both with the comparative physiology of the two sounds, with the analogy supplied by the relationship between *ky* and *k*, and with the tendency of *kw* to become *p*." To Douse's own theory it is impossible to do justice within the short limits of a note. We must content ourselves with quoting the summary of his argument in his own words. He claims to have shown that "1st there is originally a single language (the Holoethnic) employing a single sound of a certain character (*k*); 2nd, this language divides, or tends to divide into (for our present purpose) two dialects, an Asiatic and a European; 3rd, in one of these (the Asiatic) a debilitation (*ky*) of that sound springs up and spreads; 4th, the other dialect

(the European) at first resists that debilitation; but 5th, the two dialects continue in presence of each other; hence, 6th, by the habit of answering to *ky* by *k* pure a perception of incongruity and the Dissimilating sentiment are at last awakened among the Europeans; and 7th, under the influence of the former, this people proceed to adjust (as they suppose) their sounds to those of the commingled dialect; but, diverted by the latter, their efforts only result in a counterbalancing corruption of such of their own pure *k*'s as correspond to the unaffected Asiatic *k*'s—the sound they actually produce, however, not being an exact reproduction of the Asiatic *ky*, but differing from it in being a stage nearer to *kw* (say *kü*), from which it ultimately descended or advanced to *kw* (*qu*)." We strongly recommend the reader to master the whole argument of pp. 134-175, which does not yield to the rest of the book in lucidity and close reasoning. The last section (§ 64) contains some clever suggestions on the evolution of *i* and *u* from *a*.—*Tr.*]

<sup>1</sup> For *r* and *l* physiologically considered see Sievers, *Grundzüge der lautphysiologie*, etc., pp. 50-6.

<sup>2</sup> *Über die stellung der Italer innerhalb des indoeuropäischen stammes* (*Zeitschr. f. vgl. sprachforschung*, vii. 18-49, 161-93).

called it.' Fick, moreover, in the second edition of his *Vergleichendes wörterbuch der indogermanischen sprachen* (section I. 1870) marked under *l* six among the words and roots which he attributed to the primitive and fundamental Aryan:<sup>2</sup> but afterwards, in the corrections and additions with which the second half of the second section closes, he substituted *r* for *l*,<sup>3</sup> thus giving us to understand that he had gone over to the opinion of the two philologists above named. And in the work already mentioned, *Die ehemalige spracheinheit der Indogermanen Europas* (Göttingen, 1873), he proceeded decisively to defend the position of Lottner, considering the *l* as one of the characteristics which, according to him, lead us to believe in the existence of a European linguistic unity and distinguish it from the Indo-Iranic:<sup>4</sup> this view we shall have to discuss in the second part of the present work. The 'consonantismus,' for so he expresses himself,<sup>18</sup> of the Aryan languages of Europe is distinguished from that of the cognate languages of Asia by the copious development of the *l* common to all the former, while the Aryan mother-language, and the Indo-Iranic period, do not yet know this sound, and in place of it offer in every case *r*, whence we must suppose the European *l* has sprung. The less ancient Sanscrit exhibits, with tolerable frequency, the sound *l* for the most part in the same roots and words which possess it in the European languages: nor, continues the author, is the *l* less diffused in Iranic, but it is only in epochs considerably later. To the languages of this family in the most ancient period of them which is known to us, that is, to the languages of the Avesta and of the Cuneiform Inscriptions, the *l*, according to Fick, is altogether unknown. In order to admit that it existed in the

<sup>1</sup> *Compendium*, etc., pp. 10 and 163.

<sup>2</sup> See pp. 175-76.

<sup>3</sup> See p. 1066; so also in the third

edition of the *Vergleichendes wörterbuch*, etc.

<sup>4</sup> v. vi. *Die gemeinsam-europäische entwicklung des l*, pp. 201-61.

period of the Indo-Iranic unity it would be necessary to suppose that it was lost in the neighbourhood of the Iranians as soon as these were separated from the Indians: a hypothesis certainly not absurd, but in the highest degree improbable and impossible to prove, because in all else the phonetic systems of the old Indian and the old Iranian dialects are closely cognate, and do not differ from each other in the total loss of primitive and common sounds, but only in developments and transformations of some among them; moreover languages, instead of losing their ancient sounds have a tendency to develop new modifications of them to be capable of expressing, by these, differences of meaning. Let us add that in the language of the Vedas, or the most ancient form of Indian known to us, the *l* seems to be only at the commencement of its development, and many roots which later in Sanscrit have *l*, in Vedic are still written with *r*. As it cannot be supposed that, from the very outset, there have existed double forms, one group with *r*, the other with *l*, for the same roots, and as it may be shown in every one of such forms that the *l* is a transformation of *r*, the latter, and not the former, should be considered as the primitive sound in all of them. And hence Fick proceeds to note several words in which he thinks we must attribute to chance alone the agreement of Sanscrit and the Aryan dialects of Europe in the substitution of the sound *l* for *r*, which he deems the primitive. He admits the existence of seven words which, on both Indian and European ground, agree in the *l* of the suffix without our being able to point to the more ancient *r* beside the *l*: but, though we recognised them as primitive forms, we should still not be bound to consider them provided with the *l* as early as the Proto-Aryan stage. We might with better reason suppose that, in these cases, only the less ancient Sanscrit forms with *l* have reached us, while the archaic forms with *r* were accidentally lost. No



one, concludes Fick, will deduce from these words a proof of the primitive nature of the sound *l*. We may at the most allow that in the Proto-Aryan the *r* was pronounced not always uniformly, but in some cases with a sound approaching *l*, especially at the end of a root and in the suffixes. But assuredly the *l*, as a sound quite distinct from *r*, cannot be assigned either to the great Aryan unity or to the Indo-Iranic unity: it was developed separately in Sanscrit, in the less ancient Iranian languages, in the fundamental European language. All the Aryan dialects of Europe agree in the change of *r* to *l*; but the Greek and the Slavonic sometimes have *l* where in the other languages the *r* is preserved unaltered: among the numerous examples quoted by Fick we will notice only *laghu* (light), *li* (Lat. *linere*), *lik* (to leave), *ligh* (to lick), *lip* (to anoint), *luk* (to shine), *lug* (to break), *klu* (to hear). Moreover it should be observed that the Europeans availed themselves of the change of *r* to *l* to denote new ideas, akin to those represented by the more ancient forms with *r*: or, if such forms had a widely extended sense, it was so distributed that part of it was left to the older forms with *r*, part <sup>20</sup> was derived from the later with *l*. There follows a third series of roots which have *l* in the European languages, and to which there do not exist corresponding Indo-Iranic forms with *r*. Are they new roots which have arisen on European ground, or do they represent older roots with *r* which have been accidentally lost in the Indo-Iranian? The author does not venture to propose a solution of this problem, and contents himself with observing that without doubt also the languages of India and Irania lost a considerable part of their oldest store of roots, nor, perhaps, should we unconditionally deny to a linguistic period so remote from us as that of the European unity the power of creating roots. But, continues Fick, roots of this kind, whatever be their origin, attest by their form a common European activity.

It is attested also by the *l* of several suffixes, since in the European languages new formations of words appear with derivative elements, the characteristic of which is the sound *l*: and among these formations especial mention should be made of the diminutives, which, while very rare in Indo-Iranic, abound in the European dialects.<sup>1</sup>

§ 4. To the results of Fick's investigations into the history of the sound *l* stand in point blank opposition those which Heymann arrived at in his researches, and which he offered, furnished with as many proofs as he could collect, in a recent monograph.<sup>2</sup> He thinks that the agreement of Sanscrit with the European languages in the development of the *l* in a series of examples cannot but lead us, as in similar cases, to admit the Proto-Aryan nature of this sound. In a large number of roots and words, undoubtedly primitive, *l* appears as the symbol of a well marked modification of the original sense, as opposed to older forms with *r*; and of this modification, no less than of the power of *l* which expressed it, those who spoke the most ancient Proto-Aryan tongue must have been conscious. Among the twenty-five examples quoted by Heymann it must suffice to mention *ruk* (to shine) and *luk* (to see), *ri* (to flow) and *li* (to adhere). Nor can Old Bactrian stand in forcible opposition to the claim of *l* to be original, because, observes

<sup>1</sup> Among the characteristics of the European mother-language, the existence of which he endeavours to prove, Fick enumerates also the development of the vowel sound *e* from *a*. Such development, he says, is common to all the European dialects, and was begun, and in great part completed, in the period of the unity of the European languages and peoples. This *e*, common to all the Aryan tongues of Europe, and ascending, therefore, in all probability to the primitive and fundamental Euro-

pean, is found especially: (1) in a considerable series of old and important nominal forms (about 30); (2) in present-tense-stems (40 or more), the *e* of which sometimes pervades all the other forms of the verb. See *ibid.*, v. 176-200. With respect to this argument we shall see later the opinion of J. Schmidt (see § 31).

<sup>2</sup> *Das l der indogermanischen sprachen gehört der indogermanischen grundsprache*, Göttingen, 1873.

the author, whenever the forms with *r* and those with *l* are distinct in meaning, Old Bactrian appears always to have rejected the latter, while the former appear for the most part abundant. It is known, and proved by examples, that a language can be so powerfully averse from certain sounds as to lose them altogether. A grave objection to the existence of the Proto-Aryan *l* certainly cannot be derived from the Old Persian, in which, Heymann observes, with the exception of two proper names, no form with *r* corresponds to a primitive form with *l*. Lastly, if the Sanscrit *l* had been developed from *r*, independently of the European *l*, it is clear we ought to find examples of Sanscrit *l*=European *r*, since it is evidently quite possible, and even probable, that the original *r* was preserved, at least in some cases, in the European mother-language and became, on the contrary, *l* in Old Indian, which does not always exhibit the primitive sound unchanged nor always preserve them intact more faithfully than the cognate languages. The lack of such examples is, in Heymann's view, a new proof of the change <sup>22</sup> of *r* to *l* even in the primitive and fundamental language of the Aryans. But just as in many European roots the change of *r* to *l* is complete, while the former sound remained unaltered in the corresponding Indo-Iranic roots, so the greater frequency in the development of the *l* may be considered as a characteristic of the Aryan dialects of Europe: certainly not the change of *r* to *l* as a phenomenon arising in every case separately on Asiatic and on European ground.

The opinion of the author is supported by that most important prosecutor of Iranic studies, Spiegel,<sup>1</sup> who however acknowledges, on the other hand, the weight of the contrary arguments. That the ancient Iranians possessed a letter indicating the sound *l*, and that it is a mere accident (as Lepsius and Oppert think) that

<sup>1</sup> *Beiträge*, etc., viii. 121-28.

such a written symbol is not found in documents which have come down to us, seems to Spiegel, on account of the number and magnitude of such documents, by no means probable. Possibly the ancient Iranic dialects knew the *l* not less than the Old Indian: but it may be that there was not a clear consciousness of the difference existing between *l* and *r*, and hence such difference was not represented by a written symbol. The experience of the readers compensated for the want of a special sign. Spiegel believes, however, that the absence of a letter expressing the *l* in the ancient Iranic forms no grave obstacle to the admission of the Proto-Aryan existence of the *l*. J. Schmidt, in the severe criticism which he passed upon Heymann's<sup>1</sup> brochure, throws upon him the reproach of having undertaken the investigation without sufficient preparation, of not having consistently followed the same method, of having sometimes arbitrarily derived meaning from meaning; while he affirms the only result of such labour to have been to prove that, as a rule, there do not appear in the Old Iranian those stems of words which in Sanscrit and in the European languages have

<sup>23</sup> *l*. Schmidt thinks that in order to solve the proposed problem it is necessary to investigate the less ancient Iranic languages, all of which, he says, have the *l*. Such a sound occurs also in Persian and Scythian names handed down to us by the Greeks, and in Zend alphabets. This fact Heymann should have brought forward, and he should have availed himself of the authority of Lepsius and of Oppert, who has made it appear, if not certain, at all events very probable, that a symbol used twice in proper names on the Cuneiform Persian Inscriptions has the power of *l*.<sup>2</sup> Bezzenberger, in his critical remarks on Heymann's monograph, declared himself less favourable

<sup>1</sup> *Jenaer literaturzeitung*, 1874, pp. 204-5.

<sup>2</sup> *Revue de linguistique*, iii. 459, sqq.; iv. 207, sqq.

to the hypothesis of a Proto-Aryan *l*.<sup>1</sup> He does not believe in the primitive nature of the sound *l* except when there are not Iranic forms with *r* arrayed against forms with *l* of the other Aryan languages: but, when the former appear, we ought to recognise in their *r* the primitive sound. That even in the oldest and fundamental Aryan forms with *l* were developed, with a meaning more or less distinct from the primitive forms with *r*, this critic is not very much inclined to believe, because, in his opinion, he is prevented from doing so by several words drawn from the less ancient Iranic dialects, which Heymann ought to have taken into account. It may appear strange that Sanscrit should have given to forms with *l*, which have been developed independently of the European forms, the same sense as we find in the latter: but it would appear more strange still that the Iranic languages should in every case have lost the forms with *l* with their definite meanings or, from an inconceivable dislike of *l*, should have substituted for them new forms.

To us the arguments adduced in favour of the claims of this sound to be Proto-Aryan, appear both in number and weight to be so superior to those of the opposite side, that we think it reasonable to add to the catalogue of the primitive phonetic elements of our linguistic stock the <sup>24</sup> sound *l*, though we readily admit the possibility, that, both in the last periods of the Aryan unity, and also immediately before its division, the *l* and the *r* were not yet always quite distinct from each other, and that of the difference which separates them our most ancient fathers had not as yet full consciousness.

§ 5. Passing now from the study of the consonants to that of the vowels, and of the various and remarkable relations which we see to exist between these two classes of the phonetic elements, we hasten to mention, in the most

<sup>1</sup> *Zeitschrift f. vgl. sprachforschung*, xxii. 356-61.

complimentary terms, the important work of J. Schmidt, entitled, *Zur geschichte des indogermanischen vokalismus* (Weimar, I. 1871; II. 1875). According to the intentions of the author it should consist of three parts, or of three monographs, distinct, but nevertheless closely allied to each other. The first two have already seen the light, and one of them investigates the action exercised by the nasals on the preceding vowels, the other that of *r*, *l* on the neighbouring vowels; the third, the publication of which does not seem to be close at hand, will attempt to solve the problem whether, in the Proto-Aryan mother-language, there existed roots of like meaning with different vowels, one set of roots beside the other, and, if that shall appear to be the fact, in what way such diversity of vowels has originated.<sup>1</sup> This is one of the most solid, rich and useful works which have been given to the public in the last few years in the field of Aryan philology, in that it throws light upon a series of important facts, not yet sufficiently examined, with a rare diligence and learning which is extended in a wonderful way to all the families of our linguistic stock, and with an uncommon acuteness of skill; arriving at results exceedingly important both for the history of the Indo-European  
 25 vowel-system generally, and for that of the individual languages. We regret that the limits of this work constrain us to notice only the chief among such results, and that the reader cannot form an adequate conception of the minute disquisitions in which consists the value of the work under discussion: but we are consoled by the hope that a book of such worth will be read and reflected upon by all who give their attention to philological studies.<sup>2</sup>

After some considerations which need not be noticed here,

<sup>1</sup> Ibid. sect. 2nd, p. iv.

<sup>2</sup> See on this work the two critical articles of Delbrück (*Zeitschrift f. vgl. sprachforschung*, xxi.

73-92) and of Bezzenberger (*Göttingische gelehrte anzeigen*, 1875, pp. 1313-44).

Schmidt, in the first of his monographs, proceeds to treat of the lengthening and increase of vowels caused by following nasals. And starting from the origin of the nasals in radical syllables he observes that all the inserted nasal elements are not simply phonetic and devoid of all etymological value whatever, but arise partly, as Kuhn remarked, from nasal suffixes (cf. Lat. *pango* and Gr. *πήγ-νυ-μι*, Sanscr. *juhāmas* and *junagmi*). This passing of the nasal from the suffix into the root will have come about just as in epenthesis or metathesis, which consists in the passing of an *i* or *j* into the preceding syllable, and of which Old Bactrian offers us so many examples; the nasal, added as a suffix, will have given by assimilation a nasal sound to the preceding syllable, and will have then sometimes disappeared: in Greek, e. g., from the stem and root *λαβ-* we should have the series \**λαβ-νω*, \**λαμβ-νω*, *λαμβάνω*, or \**λαβ-νω*, \**λαβ-ανω*, \**λαμβ-άνω*, in which, as in the preceding, the nasal suffix has been preserved. Afterwards Schmidt proceeds to discuss the lengthening of vowels owing to following nasals in Indo-Iranic, in Teutonic, in Lithuanian, in Old Bulgarian, in the three Northern European families taken together, in Keltic, in Latin, in Greek, in Graeco-Italic, in European: from among the very numerous 26 examples quoted by him we select the Indo-Iranic (*mās*) (= European *mans*) [month], the Graeco-Italic *vīkanti* (Dor. *Ἔικατι*, Lat. *vīginti*, cf. Sanscr. *vīcati*) and the European *stībh* (from *stimbh*, *stambh*). Some of the forms quoted show us that the lengthening took place not after the disappearance of the nasal (as compensation), but while it still existed. The increase also may take its rise from the influence of a nasal, so that we have, in the same or in different languages, a form with a nasal beside another with increase: as instances our author adduces *junakti* and *jogātē* (Ved.) from the root *jug*, *bhinatti* and *bhēdati* (Ved.) from the root *bhid*; *πυνθάνομαι* (*πέυθομαι*) and *bōdhāmi*,

*mingo* (*mējo*) and *mēhami*, etc.<sup>1</sup> The cause of these phenomena is made plain in another which we may now mention, the change of the nasal sound into a vowel: hence the action which a nasal exercises on the preceding vowel may be not only quantitative, but also qualitative; the latter however takes place within limits considerably more restricted than the former, because it is only the primitive *a* and its successors which are subject to it. The vowel sound in the nasals is closely akin to *u*, in the opinion of Helmholtz. Hence it happens that before *m*, *nt*, *a* becomes *u*, or that, as the nasal element gradually changes to *o*, *u*, the result is *ao*, *au*: an intermediate form in both cases is the vowel changed to a nasal vowel (*ā*). Examples common to the Aryan dialects, so that they seem to be Proto-Aryan, are the roots *stubbh* (cf. <sup>27</sup> *stambh*), *dhv* (cf. *ghan*); Old Indian offers final *-us* from *\*-ant*, *āu* from *ām*; the fundamental European language supplies the roots *rub*, *lub* (from *ramb*, *lamb*), etc.; the Slavonic dialects are rich in such changes.<sup>2</sup>

The second monograph is devoted to the examination of the action exercised by the sounds *r*, *l* on the neighbouring vowels. In the majority of the languages of our stock the vowel sound inherent in *r* and *l* manifests itself with such force that between the liquid and the neighbouring consonant it may be developed into an independent vowel. This vowel is called by Schmidt, by a name borrowed from the Indian

<sup>1</sup> It is not however certain, observes Delbrück, in some Vedic presents that the increase takes its origin from the nasal: the present with a nasal and that with an increase may be parallel forms proceeding from the same root, as in Vedic we see so often to be the case.

<sup>2</sup> Osthoff and Brugman assign to the primitive Aryan a sonant nasal sound, or one of such a kind that the accent of the syllable could

fall upon it (Sievers, *Grundzüge der lautphysiologie*, etc., p. 24, sqq.): hence it appears that *-m*, *-nti*, and *-am -anti*, for example, are only different forms of one and the same suffix; hence are explained differences of vowels in the several languages and other phenomena of a like nature. See Brugman, *Nasalis sonans in der indogermanischen grundsprache* (*Studien z. gr. u. lat. gramm.*, ix. 285-338).



grammarians, *svarabhakti*, a term which he thinks more exact than the Greek ἐπέθεσις, ἀνάπτυξις, etc. The quantity of such vowel is, according to circumstances, and as the grammarians just mentioned teach, various: qualitatively considered it appears identical, e. g., with the *e* of the Old Bactrian in *dādareça* (= Sanscr., *dadarça*). The field on which this phenomenon is most frequently exhibited to perfection is the Slavonic and the Bactrian, so much so that the *svarabhakti* may be considered a most important criterion of distinction among the different Slavonic dialects and between these and the languages most nearly related; but it appears also in the other families of Aryan languages. Sanscrit exhibits many examples of vowels qualitatively altered by the influence of the following liquid (*ir, il* from *ar, al*—*ur, ul* from *ar, al*—thence, by metathesis, *ri, ru*); whence it comes that roots with *a* change their vowel, interchanging thus with the roots which have *i* and *u* (root Sanscr. *tul* = orig. *tal* [tollere]—*krijatē* from *\*kirijatē, \*kirjatē, \*karjatē* etc.). Similar examples are furnished in various ways and in various proportion also by the cognate languages. Remarkable again is the quantitative change of the vowels due to a following liquid: it may suffice to quote as instances the Sanscr. *pūrṇa* (comp. Old Bactr. *perena*-, Old Russ. *pŭlŭnŭ*, Proto-Aryan *parna* - [full]) and the Italo-Greek suffix *-tōr-* (from the orig. *-tar-*). The theory of *svarabhakti* explains also the *positio debilis*: a problem of which W. 28 Corssen and other philologists have in vain attempted the solution.<sup>1</sup>

§ 6. In the preceding remarks we have had occasion to

<sup>1</sup> See my *Grammatica storico-comparativa della lingua latina*, etc. Roma-Torino-Firenze, 1872, pp. 102-7, and the *Rivista di filologia e d'istruzione classica*, ii. 226-39. The best of all the illustrations which have been attempted is un-

doubtedly that of the author mentioned in the text, who discovers the reason of the *positio debilis* in a vowel developed between the mute and the liquid so as to offer an obstacle to the true position.

make mention of a phonetic fact of no light moment in the history of the vowel sounds, the increase. It will be well now to acquaint our readers with the results of the researches on this subject made by Friedrich Müller,<sup>1</sup> who opposed to the theory of Schleicher three propositions strengthened by proofs. And in the first place he affirmed that the increase in its origin was peculiar only to the two vowels *i*, *u*, and that it was not till later that there was gradually developed an increase of *a*. To such an opinion the learned philologist is led principally by the consideration that in all the languages of Aryan stock we see to correspond with each other only the increases of *i* and of *u*: with respect to the increases of *a* uncertainty prevails sometimes even in the individual languages. And he notes cases in which in Old Indian we find *a* where we should expect the first increase of this vowel, while in others, quite similar, *ā* is found; instances quoted by him are *çravas* (from *çru*), *tēg'-as* (from *tig'*), *ġan-as* (from *ġan*), *vās-as* (from *vas*), etc. In Greek *o* corresponds sometimes to the fundamental vowel *a*, sometimes to the first increase of it. Secondly, he asserted that the increase takes place only in the radical vowels, observing that, in his view, the nominal bases in *i* and *u*, which in some cases exhibit in their termination an *aj* or an *av*, are not at all against his doctrine, because the stem which is commonly thought to be affected by the increase is, according to his opinion, the stem in a primitive form: stems in *aja*, *ava*, became gradually stems in *aj*, *av*, then on the one hand in *i*, *u*, on the other in *a*; the stems in *aj*, *av*, were preserved before certain case-suffixes. In like manner he discovers more ancient forms in the stems of presents in *-nau*, *av*, than in the corresponding stems in *-nu*, *u*.<sup>3</sup> Third

<sup>1</sup> *Die vocalsteigerung der indogermanischen sprachen* (Sitzungsberichte der K. Academie der wissenschaften, philosophisch-historische classe, lxvi. 213-24.)

<sup>2</sup> *Compendium*, etc., pp. 11-12, etc.

<sup>3</sup> See Ascoli, *Studi ario-semitici*, second article (*Memorie del R. Istituto lombardo*, x. 13-36).

and last comes the hypothesis that the Proto-Aryan increase of the vowels was restricted to that which Schleicher terms first (*gunas* of the Indian grammarians), by which from *a* arose *aa*, from *i* *ai*, from *u* *au*: the second increase (*vṛiddhis*), whence in Sanscrit we have *ā* (= *āa*) from *a*, *āi* from *i*, *āu* from *u*, did not, according to Müller, belong to the primitive and fundamental Aryan, but was developed separately in the several languages of our stock. And indeed—in the first place—Old Bactrian exhibits but very slight traces of the second increase; Old Persian offers only the two diphthongs *ai* and *au*; 2ndly, Old Indian in certain cases of *vṛiddhi* presents forms phonetically decayed to such a degree that we cannot assign them to the primitive Aryan; 3rdly, the Greek diphthongs *oi* and *ou* are wrongly given by Schleicher as the representatives of the *āi* and the *āu* of the second increase, because in the former the short *o* cannot be considered as representing a long *a* of the fundamental language; 4thly, Latin, moreover, Gothic, Lithuanian and Old Slavonic, according to the author, are opposed to the doctrine of Schleicher. He himself in fact, as appears from note 1 to § 2 of the work quoted, did not consider as quite certain, but indeed only in the highest degree probable, the existence of the second increase in the mother-language which he called Indo-Germanic, and in the scientific reconstruction of which he so successfully co-operated, nor did he disguise the fact that in the use of the *vṛiddhi* the individual languages<sup>30</sup> frequently do not agree.

The various hypotheses proposed by philologists to explain the origin and the cause of the increase are critically discussed by W. Corssen, in a few pages, which students will certainly not read without advantage.<sup>1</sup> According to this learned investigator the increase, like the acute accent, tends to emphasize the syllable which, owing to its peculiar

<sup>1</sup> *Über aussprache, vokalismus und betonung der lateinischen sprache*, Leipzig, 1868-70, i. 620-2.

meaning, is the most important for the speaker : two such modes of strengthening were naturally often united, but without being necessarily connected. The Aryans would not, and perhaps could not, in certain forms be contented with the simple lengthening of *ī*, *ū* to *ī̄*, *ū̄*, but felt also the need of uniting such sounds to the strongest and fullest of the vowel sounds, that is, to *ā*, as far as it was possible without changing entirely the special phonetic character of *i* and *u*, in other words, without abandoning entirely the position of the organs of speech in which *i*, *u*, are pronounced. Opposed to this is the view of W. Scherer :<sup>1</sup> according to him it was not emphasis, but ease of pronunciation that changed *ī̄*, *ū̄* into *ai*, *au*. Among the primitive vowel sounds the most easy to pronounce was *a* : *u* and *i* require an effort. If, therefore, the most natural position of the organs of speech in articulating the Proto-Aryan vowels was that which produced *a* ("indifferenzlaut"), in order to make easier the action of the muscles necessary for pronouncing *ī̄* and *ū̄*, the duration of these last two sounds kept on diminishing and there was developed before them an indeterminate vowel, which finally resulted in *a*, in such a manner that it was only by degrees that the transition was made from the normal state to the extremes of articulation.<sup>2</sup>

<sup>31</sup> Against this hypothesis of Scherer there are, in our opinion, formidable objections in two important facts, confirmed by a large number of examples : first, the frequent coincidence of the increase with the acute accent, from which is shown the need the speakers felt of strengthening certain syllables furnished with special significance with reference to the sense, as was well observed by Corssen and other philologists ; secondly, the decay of *a* to *i* and *u*, a phenomenon of which historico-comparative grammar offers

<sup>1</sup> *Zur geschichte der deutschen sprache*, Berlin, 1868, pp. 21-9.

<sup>2</sup> With reference to the vowels

physiologically considered the above quoted work of Sievers, pp. 34-50, will be consulted with profit.

a large store of examples, and from which we perceive that that instinctive inclination to ease, to laziness, which led the Aryans to strive after expressing phonetically their thoughts with the least possible tension of the vocal organs, and was the cause and the supreme law of so many weakenings and vanishings of sounds, was much less hostile to *i* and *u* than to *a*. And of this weakening we even find not a few examples in that dialect, by means of which we can best ascend to Proto-Aryan, that is to say the most ancient language of the Indian Aryans.<sup>1</sup>

§ 7. The discussion on the increase in the Indo-European languages necessitated a mention here and there of the accent. It is our intention to make some allusion to this most important phonetic fact, both because Schleicher did not think it a proper subject for treatment,<sup>2</sup> and because to the labours devoted to this subject towards the middle of this century by Benfey, by Benloew,<sup>32</sup> by Weil, by Bopp, have been added in the last few years those of Corssen;<sup>3</sup> and, thanks to him and Baudry,<sup>4</sup> important conclusions have been drawn which

<sup>1</sup> Schleicher, *Compendium*, etc., pp. 20-3.

<sup>2</sup> "Die betonung der worte scheint zwar besonders wegen der in diser beziehung zwischen griechisch und altindisch ob waltenden übereinstimmung schon in der indogermanischen ursprache in bestimmter weise fest geworden zu sein, die vor ligen den sprachen (die beiden genanten aus genommen) gehen aber in irem worttone so stark aus einander, dass eine ermittelung irer ursprünglichen betonungsweise unmöglich ist. Wir schliessen deshalb die lere von der betonung aus, da sich eine vergleichende zusammenstellung der indogermanischen sprachen unter diesem

gesichtspunkte fast auf altindisch und griechisch zu beschränken hat, obgleich der echte accent uns eine veränderung der vocale zu sein scheint, die, der steigerung vergleichbar, zum zwecke der stamm- und wortbildung dient. . . . ." (*Compendium*, § 13, Anm. 2.)

<sup>3</sup> *Über aussprache*, etc., 2nd ed., ii. 794-1000: *Über die sprache der Etrusker*, Leipzig, 1874-5, ii. 364-83.

<sup>4</sup> *Grammaire comparée des langues classiques*, Paris, 1866, i. 14-30. See also Misteli, *Über griechische betonung, sprachvergleichend-philologische abhandlungen*, i. Paderborn, 1875.

cannot but prove acceptable to students of the Aryan languages.

The historico-comparative investigation of the tonic laws in the ancient dialects of India, of Germany, of Greece and of Italy, revealed two principles of accentuation substantially different, the logical principle and the phonetic: the former prevailed in the first two, the latter in the remaining two of these languages. The Sanscrit and the German accent appear to be altogether independent of the quantity whether of the entire word, or of any one syllable whatever. The first especially is seen to be endowed with wonderful freedom, as being able to fall on any syllable from the beginning to the end of a word, so that its position is not at all governed by phonetic laws, but, as we shall see, by logical laws which determine the syllable on which in the individual words the tonic elevation ought to rest. In the examination of these logical laws worked Benfey, Benloew, and Weil, and the founder himself of Indo-European comparative grammar, Franz Bopp. But, while Benfey regarded as primitive only that accent which falls on the prefixes and on the suffixes; while Benloew developed this principle in his doctrine of the "determinant final," according to which of several formal elements added to one root to determine its meaning, that one is held to have originally received the accent which was attached last, as representing the last idea which makes a more powerful impression, especially on crude minds of very ancient ages; <sup>33</sup> Bopp, moved by other considerations, would not recognise an original accent except in the initial radical syllables of words, regarding as an indication of decay the accent of the final syllables. The examination, which was on both sides instituted, of the opposite theory showed that neither the first nor the second doctrine answers exactly to reality: it showed that the two principles mentioned are both true, but only within limits considerably less extensive than their sup-

porters have imagined, both false beyond such limits; it showed that far from being mutually and inexorably exclusive, the two opposed views can and should be reconciled, and only on this condition is a scientific understanding of the facts possible. And, indeed, as the most ancient Indians were inclined to pronounce with the acute accent that syllable which appeared to them more important with respect to the sense of the word, and as this seemed to be sometimes the root-syllable, expressing the fundamental idea of a word, sometimes a syllable belonging to an affix representing a vividly conceived determination of that idea, it naturally could not but happen that they attracted to themselves the accent, with varying alternation, like two opposite poles, now the one and now the other remaining victor in an even contest. In any case it is clearly seen that the supreme law of the accent in Sanscrit is not phonetic but logical, at least as far as results from the investigations above mentioned. The fundamental principle too of the German accentuation is logical: the acute accent falls on radical syllables, denoting the substantial meaning of the words, or on syllables of prefixes which limit it. The basis, on the other hand, of the Hellenic and the Italic accent, and especially of the latter, is phonetic and not logical. The severe laws which, in the classical ages, do not allow it either to pass the limits of the antepenultimate syllable in retreating from the end of the word, or to rebel against the influence of the last syllable when long in Greek, and the penultimate when long in Latin, were, we may say perhaps with considerable <sup>34</sup> probability, foreign to the prehistoric epochs of the languages in question: nevertheless he would make a bad guess who should attribute to the Italic and the Greek accent of the most ancient times not merely greater freedom, but an absolute independence of phonetic influences, an independence which nothing gives us the right to assume, and which we should not know how to reconcile with the principles which

govern the Greek and the Latin accent in the historical periods of their existence. But, since we have noticed the accent in the two classical languages without as yet distinguishing the tonic characteristics of the one from those of the other, because both in the latter and in the former the phonetic principle prevails, we must now observe that the Greek accent moved within the limits which were assigned to it, as well as to the Latin, with considerably more freedom than the other; not shunning the last syllable (except only in the verbal forms for the most part and in the *Æolic* dialect) and allowing the length of the final syllable to regulate it to a considerably less extent than the long penultimate does the Latin accent, of which the quantity appears to have been the vital principle. And in many cases the tonic system of the Greek finds its counterpart in that of the Sanscrit, and seems to stand, we should almost say, intermediate between that and the Latin.

And now it would be well to consider whether the two principles brought into notice, the logical, which governs the Indian and the German accent, and the phonetic, by which the Greek and the Italic accent is guided, are both equally ancient, or whether the one of them is more nearly original, the other developed in a later age. When we consider that in the Old Indian there still rings more clearly than in the other dialects of the same stock the echo of the primitive word of the Aryans; when we reflect that it is quite reasonable to suppose that they made use of the tonic elevation, as of every other element of the language, to express their ideas; when we think of the high significant value which the accent has in other languages; when, finally, we observe that the elevated tone, by which a syllable in a word composed of several elements is affected, may be often rightly compared, as Baudry has done, with the rhetorical accent, which among several words of a sentence or a period throws into relief one of them from its peculiar



importance with regard to the sense: the hypothesis will appear undoubtedly quite natural and well-founded, that the primordial cause of the accent was the instinctive inclination to raise with a higher tone than the remaining syllables the one representing the idea, the importance of which relatively to the meaning of the whole word seemed to the speaker greatest. Hence the tonic system of Old Indian and Teutonic, a system in which sometimes the radical syllables, sometimes those of the affixes appear strengthened by the accent, according as the first kind or the second made stronger impressions on the minds of the speakers, appears to us considerably more original than the Greek and the Italic, in which, and especially in the latter, the logical principle was forced to surrender the field to the phonetic. And the cause of this fact is probably to be sought in the different transparency, so to speak, of the word in the different dialects which we are discussing. For—while in Old Indian the significance of each of the several elements of which the words were made up was still clearly seen in many cases, and hence the accent marked with different elevation of voice the different importance of such elements with reference to the meaning—in Greece and in Italy the recollection of the internal, primordial constitution of the word was less and less present to the speakers. The word ceased to appear as a whole composed of several parts: men no longer saw clearly the multiplicity of the molecules, so to speak, which united to form it, but only the unity of the whole. The meanings of the several parts were more and more confused in the synthetic sense of the whole: consequently the primitive tone indicating the different relative value of the different elements of a word was succeeded by an accent the only function of which is to mark the individuality, the independence of a word. The struggle, if we may so express ourselves, between the two tonic systems described reveals itself also here and there in Greek, where, espe-

cially in the nouns, we still find not a few traces of an accentuation closely akin to the Sanscrit, while in the verbs there prevail tonic tendencies less ancient, and the Æolic dialect with its dislike of oxytones agrees with Latin, as has already been aptly observed by Priscian. The prevalence of the phonetic principle is greatest in Latin, where the quantity exercises a much more powerful influence than in Greek. And what we have said of Latin we must, if we would not refuse credit to the results of Corssen's acute investigations, affirm also of Umbrian, Oscan and the other Italic dialects which are more closely connected with them, and even of Etruscan, in which the constant absence of the acute accent in the final syllables must have been, according to the eminent investigator, the reason why such syllables have so frequently been weakened and vanished: a fact which united with others to impress on Etruscan word that strange character so well known to all, and to obscure all appearance of relationship between the Etruscan and the Italic dialects of which Corssen believes and proclaims it a brother.<sup>1</sup> But from the study of the later popular Latin to the third century of our era,<sup>2</sup> and of the Neo-Latin dialects,<sup>3</sup> we perceive how the accent, already victim of the quantity in Latin, has withdrawn itself from the dominion of quantity and subjected this to its own power, in such a way that the acute accent, having

<sup>1</sup> See my *Cenni sopra Guglielmo Corssen, e la lingua etrusca*, Firenze, 1876 (extracted from the *Rivista Europea*). As is known, the learned philologist, not being able to derive either from written symbols, or from testimonies of ancient grammarians, any ideas with reference to the tonic system of the Italic dialects related to Latin, availed himself of an accurate and acute observation of the phonetic corruptions, and of the

comparison with Latin to discover the laws of the accent in those dialects, laws which appeared to him exactly similar to those of the Latin accent.

<sup>2</sup> Schuchardt, *Der Vokalismus des vulgärlateins*, Leipzig, 1866-8, *passim*.

<sup>3</sup> Diez, *Grammatik der Romanischen Sprachen*, Bonn, 1870-2, i. 500-12.

again become the absolute master of the word, by strengthen-<sup>37</sup> ing above all the rest the syllable which it raised, not only kept it long if it was so already, but lengthened it if it was short, while the length of the syllables with a grave accent became diminished. And not only in Latin, but also in the Vulgar Greek of the decadence, quantity was forced to surrender to accent.<sup>1</sup> Therefore, while quantity, as long as it exercised its influence on accent, was the principle which shaped the old classic verse, accent having become free again, and having made itself master of quantity, began to govern the formation of the Latin and the Greek verse<sup>2</sup> with a power which became greater and greater in process of time.

§ 8. Hitherto we have considered the Aryan sounds in themselves, without paying any attention at all to their possible relations of affinity with the phonetic elements of other languages, and especially of the so-called Semitic family. Whether the origin of Proto-Semitic and Proto-Aryan can be said to be common, so that these two mother-languages ought to be considered as two forms of a very ancient speech which might have contained them in germ, perhaps with others, is one of the most difficult problems on which philologists have laboured, which they have not yet been able to bring to such a solution as would suffice to put an end to the long dispute between believers and non-believers in the primitive unity of the Aryan and the Semitic stock in a single more ancient stock which may well be called, and has been called, Aryo-Semitic.<sup>3</sup> To the school of

<sup>1</sup> Mullach, *Grammatik der griechischen vulgarsprache in historischer entwicklung*, Berlin, 1856, pp. 70-3.—Sophocles, *A glossary of later and Byzantine Greek*, London, 1860, pp. 37, 64, seqq.

<sup>2</sup> Hence the so-called verse *πολιτικός*, or 'common, in use with the

people.'

<sup>3</sup> For the attempts to discover and to demonstrate community of origin between the one and the other class of dialects and the discordant views of eminent philologists see Delitzsch (Friedrich), *Studien über indogermanisch-semitische wurzel-*

38 Renan, of Schleicher, and of the others who deny the pre-historic existence of a parent language of the two great linguistic systems, belongs Friedrich Müller, who in a very brief but copious monograph,<sup>1</sup> set himself to demonstrate that "Indo-Germanic and Semitic are two linguistic stocks fundamentally distinct, each of which pre-supposes an origin independent of that of the other." And in his analysis of the elements of the two stocks, beginning with the consonantal sounds, he observes: first, that while in Aryan the aspirates *gh*, *dh*, *bh* correspond to the sonants *g*, *d*, *b*, on the contrary in Semitic the surds *k*, *t*, *p*, appear with aspiration in *h*, *s*, *š*, *f*;<sup>2</sup> secondly, in Aryan the sound *l* has been developed from *r*, in Semitic *l* seems to be the original; thirdly, in the latter stock we have, beside the guttural and dental surds, emphatic sounds which the Aryan stock altogether lacks. And, with respect to the vowel sounds, he observes that the diphthongs *ai*, *au*, which we find in Proto-Aryan, do not belong to Proto-Semitic. Moreover, in the constitution of the syllable, he perceives some diversity between the two linguistic systems alluded to. These arguments, the worth of which is certainly not very great, are followed in his treatise by others of far greater force: but the order which we must adhere to obliges us to defer the exposition of them.

We now proceed to speak briefly of the supporters of the Aryan-Semitic unity. Within the narrow limits of time assigned to our treatise, that is to say within the last decade, we have certain monographs of Rudolf von

*verwandschaft*, Leipzig, 1873, pp. 3-21, and my *Introduction à l'étude de la science du langage*, transl. . . . by V. Nourrisson, Paris, 1875, pp. 134-41.

<sup>1</sup> *Indogermanisch und semitisch, ein beitrag zur würdigung dieser beiden sprachstämme* (*Sitzungsberichte der K. Academie der Wis-*

*senschaften, phil.-hist. cl.*, lxx. 5-20).

<sup>2</sup> It should be observed, however, that also in some Aryan languages surd sounds are aspirated, as e.g., in Old Indian which possesses surd and sonant aspirates, and in Greek, which has only surd aspirates.

Raumer in continuation of the writings previously published on this subject,<sup>1</sup> and the book already quoted of Friedrich Delitzsch. Starting from the first, it will be well to examine attentively his method of investigation before setting forth the results of it. The proofs of kinship of the Aryan languages with one another, so our author begins, are: 1st, the primitive identity of flexion; 2nd, the extremely definite phonetic laws common to all the languages mentioned; this second proof is of greater importance than the first. The same indications of affinity should be sought between the Aryan and the Semitic stock. Nay, just as flexion evidently originated in great part after the separation of the two stocks,<sup>2</sup> so we cannot expect many indications of original identity in this class of facts, and we ought rather to direct our attention to the affinity of the Semitic sounds with the Aryan, regarding as a chief, and almost only mark of common origin, the regular correspondence of the former with the latter. Of the objection which others may find, and which has been so often founded upon the different constitution of the roots in the two linguistic systems (because the comparison of the

<sup>1</sup> *Gesammelte sprachwissenschaftliche Schriften*, Frankfurt a. M. 1863, pp. 460-539. — *Hr. prof. Schleicher*, in *Iena und die urverwandtschaft der semit. u. indoeurop. sprachen*, ib., 1864. *Fortsetzung der untersuchungen über die urverwandtschaft der semit. u. indoeurop. sprachen*, ib., 1867. *Zweite fortsetzung*, etc., ib., 1868. *Dritte fortsetzung*, etc., ib., 1871. *Vierte fortsetzung*, etc., ib., 1873. *Die urverwandtschaft der semit. u. indoeurop. sprachen* (in the *Zeitschr. f. vgl. sprachforsch.*, xxii. 235-50).

<sup>2</sup> This assertion, as is clearly evident, cannot be well received except by those who believe that in

no stock of languages is flexion a primitive fact, but in reality a form developed from others more simple: a position maintained especially by Schleicher and by M. Müller, fiercely assailed by Pott, by Renan and by other philologists (see my *Introduction*, etc., pp. 120-6, and the 3rd chapter, § 17 of this book). Hence the illustrious French Semitic scholar denies the possibility of an extremely ancient ante-grammatical affinity between the two stocks, because, in his opinion, every language comes into existence with its grammatical system already completely formed in its essential parts.

sounds is not possible without that of the roots), we shall have to speak towards the end of the following chapter.

<sup>40</sup> Here, on the other hand, we must give some hint of the method on which Raumer thinks the Semitic and the Aryan sounds ought to be compared together. He holds that it is necessary, with respect both to the one and the other stock, to ascend to the most ancient period to which the investigation can reach, for example, far beyond the Hebrew known to us: but he does not think that the Proto-Semitic and the Proto-Aryan must needs be reconstructed in order to compare them together, being of opinion that such reconstruction cannot be completely achieved, and that hence it would happen that some primitive elements contained in one, or in some of the languages of each stock, would not be made good use of. But, we observe, how is it possible, without that reconstruction, to distinguish the Proto-Aryan and Proto-Semitic elements from those which were only developed later in the individual languages? And without this necessary criterion do we not perhaps hourly run the risk of regarding as Aryo-Semitic an element which only accidentally presents itself to us in the same form, or in forms apparently cognate, in two or more languages of different stock? In the study of the phonetic facts and in the research into their laws, Raumer limits for the most part the investigation to Hebrew, Greek and Latin, and considers it not impossible to discover regular Aryo-Semitic correspondences of sounds even without extending the limits of the comparison beyond the field described, while he quotes in proof the discovery of the Teutonic 'lautverschiebung.' But the proof will not appear to all, we believe, quite appropriate to the present case, and, as F. Delitzsch well remarked, a reference to Sanscrit and Arabic would have been of the greatest advantage to him. It remains now to see what fruits the author has gathered from his comparative investigations, what phonetic laws he

has discovered, or at least believed himself to have discovered. The phonological results of his researches may be epitomized in the two following propositions: 1st, the hard Semitic explosives or mutes are represented etymologically by the corresponding Aryan sounds; 2nd, the soft Semitic explosives for the most part find their counter-<sup>48</sup>part in the hard Aryan homorganic sounds (e.g. an Aryan *p* would correspond to the Semitic *b*).<sup>1</sup> This last proposition is not, in the opinion of Delitzsch, either demonstrated or demonstrable by any certain example. Raumer, convinced of having not only affirmed, but also furnished with strong proofs his phonological equations, goes on to observe that such constant correspondences of Aryan sounds with Semitic sounds cannot be considered either as accidental, or as produced by the passage of words from the one to the other stock, or as due to a natural affinity between sounds and meanings. For the Aryan languages not only exhibit in great abundance sounds equivalent to the Semitic, but also offer us in no less number sounds different from those, which they represent according to laws quite definite and constant: the first case is found with respect to the hard, the second to the soft Semitic explosives or mutes. He who would seek the cause of similar facts in the natural power of the sounds might by arguments altogether identical, deny the common origin of Greek and German, of German and Swedish, and even of High and Low German.

In the last pages of his book above quoted Friedrich

<sup>1</sup> These phonological equations proposed by Raumer for the first time in 1863 were succeeded, in the following year, by the seven laws on which stress was laid by Ascoli in the letter to A. Kuhn, *Del nesso ario-semitico* (*Politecnico*, xxi. 190-216), among which we may be allowed to notice at least that of

“aspiration,” by which there would correspond to the Sanscr. *k, t, p*, the Semit. *kḥ, tḥ, pḥ*; that which affirms the affinity of the Sanscrit aspirate medials with the Semitic unaspirated medials; lastly, that which establishes the primitive identity of the Sanscr. *g* with the Sem. *q*.

Delitzsch gives us, as the result of the comparative investigations made by him with respect to a large number of Semitic and Aryan roots, a table of Indo-European consonants with the sounds corresponding to them in Arabic, in Ethiopic, in Hebrew, in Chaldaic, in Syriac. Particularly worthy of remark in this catalogue seem to us the equations of Aryan *p* with Semitic *f* (especially in <sup>42</sup> Arabic and in Ethiopic), and of the Aryan *v* with the Semitic *v* and *j*: among other things also, it appeared to us remarkable to see represented in Semitic the Aryan aspirates *dh* and *bh* no less than the unaspirated sonant homorganic *d* and *b*. In many of his phonological comparisons Delitzsch agrees with Raumer: but there stands a barrier between them in the second of the two laws of Raumer, which is absolutely denied by Delitzsch: who, as will appear better from the following chapter, regulated himself in his comparisons in a way to deserve praises for judgement of no common order.

§ 9. The comparison was extended to a wider field by Schultze in his short dissertation entitled *Indo-germanisch, semitisch und hamitisch* (Berlin, 1873). Later on, when we come to discuss roots, stems and words, the reader will have an opportunity of discerning adequately what is the worth of the comparison which the author instituted with reference to the three stocks of language mentioned. Suffice it now to make some allusion to his phonological comparisons. Starting from the vowels Schultze holds that in all the languages of the Noachidae (as he calls them) *a* is the fundamental vowel, *i* and *u* alterations of it, which arose by means of a lingual (*i*) or labial (*u*) constriction of the vocal tube. These three simplest shades of vowel sound reveal themselves to us originally not quite distinct from one another in reference to meaning, as appears especially from the Semitic writing-system. We must call secondary, chiefly in Hamitic, the



long vowels: and secondary the diphthongs, the complete development of which only took place in Aryan after its separation from Hamito-Semitic, but before its division into several languages. Proceeding to discuss the consonants Schultze notes as peculiar to the Semites alone the use of the weak faucal sound ( $\psi\iota\lambda\omicron\nu\ \pi\nu\epsilon\upsilon\mu\alpha$ , aleph) without a vowel. There came afterwards, but before the rest, the consonants  $b$  ( $p$ ),  $d$  ( $t$ ),  $g$  ( $k$ ): their greater antiquity<sup>43</sup> appears to Schultze sufficiently demonstrated by the great simplicity of the hieroglyphic symbols which represent them, and by their position in the Semitic alphabets immediately after aleph. The difference between the media and the tenuis is not primitive, as is clear from the written symbols, and from the frequent alternating of the one with the other. After some remarks on the origin of the nasal sounds the author bids us attend to the appearance on the scene of  $r$  and  $s$ , the affinity of which he attempts to prove by a scant number of examples. In his opinion the more ancient of these two sounds is  $r$ , which exists in languages that have no  $s$ :  $r$  produces  $l$ , whose existence does not go back beyond the period in which the Hamito-Semitic stock was subdivided into two stocks. All the other sounds are relatively more recent. The combinations of sounds employed in all the languages of the Noachidae in the constitution of the syllable are: 1st, spiritus lenis + vowel ( $'a$ , etc.); 2nd, consonant + vowel ( $ba$ , etc.); 3rd, spiritus lenis + vowel + consonant ( $'ab$ , etc.); 4th, consonant + vowel + consonant ( $bab$ , etc.), as to which last form of syllable it is not known for certain whether it already existed before the first separation. Those forms which begin or end with several consonants are expanded forms of more simple syllables. The mention which we shall have to make, in the following chapters, of the other parts of this little work will serve, as we have just said, to make us estimate rightly also the worth of that which we have just been epitomizing.

It is chiefly from its strange novelty that our attention is drawn to the recent work of Reinisch on the unity of origin of the languages of the ancient world.<sup>1</sup> Reinisch considers the races of the ancient world as descending from one family whose primitive seats were near the equatorial lakes of Africa. Hence the Southern and Central African dialects, the Erythræan (Semito-Hamitic)<sup>2</sup> and the Aryan. Among the speeches of Interior Africa a very remarkable one is the Teda, the language of the people known under the name of Tibbu or Tebo, which for quite 3000 years has inhabited the eastern margin of High Libya from the desert of Kufara down to Lake Tsad. The study of this dialect, which Reinisch believes to be related to the others above mentioned, and in which most uncommon interchanges take place of the dentals with each other, and with many other sounds, and the investigation of the speech of children, led the author to imagine the following genesis of the sounds. In his opinion the first sound of the fundamental language was *t* (*d*) : from this grew the gutturals *k* (*g*) and the labials *p* (*b*) ; then the semivowels *j*, *l*, *r*, *n* ; then *h*, *w*, and afterwards from these the vowels *i*, *a*, *u*. It is hardly necessary to observe that this book which is, to begin with, hardly to be commended for exactness in the quotations of Semitic and Aryan words, attempts to propagate hypotheses not founded on any solid base, and contrary to the most certain results of philological investigation into the dialects of the Aryans and the Semites.

<sup>1</sup> *Die einheitliche ursprung der sprachen der alten welt, nachgewiesen durch vergleichung der africanischen, erythräischen und indogermanischen sprachen mit zugrundelegung des Teda*, i. Wien, 1873. In our remarks on this work we shall make use of the opinion passed upon it by the *Literarisches centralblatt*, 1874, pp. 636-8.

<sup>2</sup> This name "does not seem to us appropriate, because by the name Mare Erythraeum the oldest and most accredited authors of antiquity understood not the Red Sea of today, but the Perso-Indian Sea." (F. Müller, *Grundriss der sprachwissenschaft*, i. Wien, 1876, p. 135, note).

To these remarks we might still add a word or two on the comparisons, not very conformable to the principles of the new science of language, made by Edkins in a recent book of his <sup>1</sup> between the sounds of the Aryan languages of Europe and those of Chinese and of Turanian languages, as some still call them. But we shall find a fitter place to discuss the comparisons of Edkins in the following chapter, in which we propose to treat of the recent studies on the subject of the Aryan roots considered in themselves, and in their possible relations of common origin with those of other languages.

<sup>1</sup> *China's place in philology, etc.*, London, 1871, pp. 321-49.

## CHAPTER II.

**Roots.**

45 § 10. The results of the great etymological labours prosecuted according to the severe rules of the new comparative method on the subject of the languages of Aryan stock, and especially of the wonderfully wide researches of Pott are presented to us collected and set forth with a useful novelty of arrangement in Fick's *Vergleichendes wörterbuch der indogermanischen sprachen*, a work of which we have already the third edition with some very important additions of the author (Göttingen, 1874—6). It is divided into seven parts contained in three volumes: the 1st (I. 1—258) is devoted to the words of the Indo-Germanic mother-language; as Fick still terms it; the 2nd (I. 259—468) to the words peculiar to the Indo-Iranian (Aryan, according to Fick's nomenclature) linguistic unity; the 3rd (I. 469—843) to the words peculiar to the European linguistic unity; the 4th (II. 1—288) to the words peculiar to the Slavo-Teutonic linguistic unity; the 5th (II. 289—508) to the words peculiar to the Slavo-Teutonic linguistic unity; the 6th (II. 508—701) to the words peculiar to the Lithu-Slavonic linguistic unity, with an appendix (II. 703—84) on the Prusso-Lettic words; lastly, the 7th, which comprises almost the whole of the third volume, gives the words peculiar to the German linguistic unity; the fourth and last volume contains an Appendix (3—120) and numerous indices compiled by Dr. A. Führer. It is certainly to be regretted that Fick has not extended his investigations also to the Keltic family, in order to be able to assign them in his lexicon the place which undoubtedly belongs to them, and that he has contented himself with adding to the third edition just published of

the *Vergleichendes wörterbuch* the Keltic words with which, <sup>46</sup> thanks to Windisch, the fourth edition of the *Grundzüge der griechischen etymologie* of G. Curtius (Leipzig, 1873) has been enriched. This lacuna, we repeat, is to be regretted, both as far as concerns the lexicon considered in itself, and as far as relates to the division and subdivisions of the primitive and fundamental language of the Aryans, and the historical problems which are so closely connected with them. Nevertheless, in spite of this defect which the wonderful industry of the author will, we trust, remove from a new edition of his work, we may with Windisch<sup>1</sup> regard it as one of the most important works which have in the last few years been given to the public on the subject of the Science of Language.

We invite the attention of our readers to the Appendix above mentioned, entitled *Roots and root determinatives*, which appears to us of no slight moment for the subject to which the present chapter is devoted.<sup>2</sup> The author begins by distinguishing two classes of roots: 1st, roots expressing ideas which only a being conscious of himself can conceive and represent phonetically; 2nd, roots which do not presuppose self-consciousness (interjections, imitations of sounds, children's words), the influence of which on the formation of the Proto-Aryan language Fick reduces to its due limits. And turning his attention to the first and far more important kind, he observes that it is only with the distinction between pronominal roots and verbal roots that the real human language, and the possibility of its development, commence: "the thought which is founded on the self-consciousness begins with the capacity for dividing any perception

<sup>1</sup> *Zeitschr. f. vgl. sprachforsch.*, xxi. 385-434.

<sup>2</sup> This appendix is found also in the 2nd edition of the *Vergleichendes wörterbuch* (pp. 927-1044. of the

single volume in which this lexicon is contained). In our criticisms and quotations it is this edition to which we have adhered.

whatever into its two fundamental elements, of distinguishing the author of the action from the action itself, and<sup>47</sup> reuniting the former with the latter." Such a distinction had its phonetic expression in the distinct, but contemporaneous, creation of syllables denoting only the subjects (pronominal roots), and of syllables representing the activities put in operation by the same (verbal roots). From the more and more close union of the one kind with the other kind of roots was produced the Aryan word, a verb or a noun according to the prevalence of the verbal or of the pronominal element.

And here the author proposes to himself one of the most arduous, but most seductive tasks which a philologist can set himself: the analysis of the constitution of the roots. Many of them are considered by the most eminent students of the Science of Language, as some of the so-called simple bodies are by chemists, rather as not yet decomposed than as not decomposable. Now if the portion common to two or more stems, both in their phonetic matter (we ask pardon for the expression) and in their meaning, gives us the right, nay, imposes on us the obligation, of ascending to the root whence both spring, why shall it not be possible and obligatory for us to institute a similar comparison between two or more roots which are related to one another as those stems are, and, by means of the comparison, to discover the most simple root of which they appear to us to be expanded forms? And this analysis would not only serve to furnish us with more exact notions about the first significative elements in the Aryan languages, and in their mother-language, but also, as Bréal<sup>1</sup> excellently remarked, to bring to light new relations between the ideas of our most ancient forefathers, and perhaps also to reveal new affinities between linguistic stocks. The

<sup>1</sup> Bopp, *Grammaire comparée trad. . . par M. M. Bréal*, Paris, *des langues indo-européennes . . .* 1866-74, ii. xxii.

difficult enterprise has already been attempted here and there, on various principles and methods, with varying extent of investigation and with various results, by several philologists, among whom it may suffice to quote Pott and G. Curtius.<sup>1</sup> The chief result of Fick's investigations,<sup>48</sup> which succeeded to the researches alluded to, is the following proposition: there are in Proto-Aryan and in the dialects which spring from it primary roots, that is to say, no longer decomposable, and secondary roots derived from the primary; these we find formed, 1st, only from simple vowels (*a, i, u*), 2ndly, from the vowel *a* + a consonant (*ad, ap, as* etc.), 3rdly, from a consonant (simple or double) + the vowel *a* (*da, sta*, etc.). Every root otherwise formed derived its origin from one of the primary roots just described, and this came about either by means of an alteration of some sound, or by way of reduplication; or owing to the addition of some final element, which Fick calls, with Curtius, 'a root-determinative.' The proof of Fick's theory rests in the fact, certain in his opinion, that all, or nearly all the roots of a structure not agreeing either with the first or the second

<sup>1</sup> Pott, *Etymologische forschungen auf dem gebiete der indo-germanischen sprachen*, etc., Lemgo-Detmold, 1859-73, Part 2, Section 1, p. 265. sq. Curtius, G., *Grundzüge der griechischen etymologie*, Leipzig, 1869, pp. 32-71. We should like to notice also a monograph of Hovelacque with the title *Racines et éléments simples dans le système linguistique indo-européen*, Paris, 1869.—The author censures modern linguists for following too closely the teaching of the Indian grammarians with respect to roots, which those grammarians did not know how to extract with rigour of method, as not having paid

attention, when they should have done, to the weakening of the vowels. According to Hovelacque every really simple element, verbal or pronominal, of the Indo-European language consists either of a vowel, or of a consonant and a vowel, or of two consonants followed by a vowel, so that the root is in every case an open syllable. Every root in *ar* is an expanded form of a root in *r*: in any Indian root whatever, terminating in a consonant, this is the initial sound of a derivative element. These assertions would, in my opinion, need more numerous and stronger proofs than are those adduced by the author.

or the third class of the primary roots may be reduced, without violence either in respect to form or to meaning, to roots comprehended in one of the three classes mentioned. We had better now see, by an examination as  
 49 detailed as the nature of this work admits, what are the characteristics which, according to Fick, distinguish the secondary from the primary roots.

In the first place we observe the changes of the sounds of the primary roots, and, first of all, the weakenings of vowels. We see *a* weakened to *i*, whether initial or medial or final; we see it also obscured to *u*, especially when final: *i* and *u* are never primitive in the roots, according to Fick, but spring from *a* (*u* sometimes from *va*).<sup>1</sup>—A phenomenon equally worthy of remark is the strengthening of vowels which appears in their reduplication and increase, but with much greater frequency in the former than in the latter: even before the division of Proto-Aryan it appears that the lengthening of the final *a* of roots was widely extended;<sup>2</sup> that of *i* appears altogether foreign to Proto-Aryan; in two cases at least we must believe that of final *u* to be primitive. The study of the consonantal sounds in the roots discloses: 1st, vanishing of initial *s* before *k*, *t*, *p*, *n*, in a certain number of examples; 2nd, metathesis of *r*, and perhaps also

<sup>1</sup> Windisch, in the review quoted of Fick's work, considers this assertion not proven, and in particular the attempt to derive *u* from *va* appears to him strange. In the roots related in meaning, and only distinguished from one another by the quality of the vowel, he believes that it may be assumed that this quality was originally not at all determinate, and that, according to the different colouring of the vowel, men wished to express different ideas more

or less closely connected with each other. This mode of expression, observes Windisch, would find its counterpart in the languages of the Semitic stock.

<sup>2</sup> The Indian grammarians, as we know, followed in this by many of our philologists, do not admit verbal roots in short *u*. Schleicher manifested a contrary opinion (*Wurzeln auf a im indogermanischen*, in the *Beiträge*, etc., ii. 92-99).



sporadically of *n*, in some very doubtful cases; we do not find in roots additions of initial or medial consonants in such a way that the phenomenon may be referred to the primitive and fundamental Aryan. As far as concerns the reduplication it will be sufficient to observe that some so-called roots were produced by means of it from true roots, and should be considered as present-stems, and <sup>50</sup> as intensives which have become general stems. They are for the most part words denoting sounds, as *kak* (to laugh) from *ka-ka*, a reduplicated form of the root *kā* (to utter a sound).<sup>1</sup> We shall have to be less brief with the 'determinatives' of Fick, or the elements added, as suffixes,<sup>2</sup> to the primary roots which, by means of them,

<sup>1</sup> With regard to the reduplication of the Aryan roots Brugman's monograph deserves notice *Über die sogenannte gebrochene reduplication in den indogermanischen sprachen* (in the *Studien zur griechischen und lateinischen grammatik*, edited by G. Curtius, vii. 185-216, 273-368). The author notices first of all how rare is complete reduplication, as, e.g., in the Sansc. *gar-gar-a-s*, in the Gr. *μέρ-μέρ-ο-s*, in the Lat. *fur-fur*: often the first element of the reduplicated form undergoes a phonetic decay by which it becomes a mere prefix (for instance, in the reduplications of the present and the perfect), because the reduplicative syllable had not its own accent, owing both to dissimilation and generally to desire of easier pronunciation. To the two reduplications noted, the complete and the incomplete resembling a prefix, is added a third, an incomplete reduplication in the shape of a suffix, which is found when not the first, but the second element of the reduplicated form experiences a loss either of the initial

sound or of the final: in this last case we have the so-called broken reduplication (e.g., Ved. *dudh-ra-s*, in which *du-dh-* comes from *du-dhu-*, and this from *dhu-dhu*; the *dhu* of the second syllable has lost its final vowel *u*, preserving only its initial sound *dh*, in order, Brugman believes, to maintain the equilibrium in the word, the first syllable of which was weakened by dissimilation, by abandoning its primitive aspirate). Thence came several mutilated forms which were afterwards considered and treated as true roots (e.g. *da-d* from *da-da*). And here the author sets himself the task of studying the reduplication which we are discussing, both in the roots ending in a vowel and in those which have a final consonant. Some of the broken reduplications seem to Brugman to reach farther back than the beginning of the existence of the individual Aryan languages as separated from one another.

<sup>2</sup> Fick rejects absolutely Pott's famous doctrine of the secondary

51 are transformed and multiplied into secondary roots. These elements have been divided by our author into two classes, the first comprising those which for the most part do not alter the sense of the roots, while to the second belong all those others which generally give rise to secondary roots, distinct also in meaning from the primary roots from which they spring. The determinatives of the first class are *a*, *n*, *m*. The *a* we find, e. g., in the secondary Proto-Aryan roots *gna* (to know) from *gan*, *ja* (to go) from *i*, true present-stems which have become general stems; the *n* in the primitive *gan* from *ga* (to beget), and in several other secondary roots which have come from present-stems in *-na-*, *-nu-*; the *m* in *gam* from *ga* (to go), and this suggests the *-ma-* used in the formation of old participles and infinitives, from which it is probably derived. The determinatives of the second class, which Fick enumerates according to their phonological order, are more numerous. 1st, Determinative *k* in 60 Proto-Aryan roots (e. g. *vak* [to speak] from *va=u* [to utter sound], *dak* [to bite] cf. *da* [to mangle]): probably identical with the suffix *-sk-* (*-ska-*) which forms presents. 2nd, Determinative *g* in 24 primitive roots (e. g. in *ug=vag* [Lat. *augere*, *vigere*]

roots formed by means of mutilated prefixes, a doctrine already vigorously assailed by G. Curtius (*Grundz.*, etc., pp. 38—52 of Eng. Ed.), the chief objections to which may be reduced to the following: 1st, that such a doctrine is not founded on facts; 2nd, that we cannot refer to a linguistic period so ancient as that which preceded the division of the Aryan stock into several families of languages, a phenomenon which appears in epochs relatively very late, and only for the reason that we find in them a considerable number of ex-

amples of the phenomenon; 3rd, no one has proved that certain elements, used commonly as prefixes in Sanscrit, existed already before the separation of the languages as prefixes, and exactly in the Sanscrit form; 4th, nothing gives us the right to suppose that the union of prepositions with verbal roots was even in the earliest ages so close that new radical forms could be easily derived from them. See, however, Scherer, *Zur geschichte der deutschen sprache*, Berlin, 1868, pp. 327, sqq.

from  $u=av$  [to be content],  $jug$  from  $ju$  [to join]): possibly this  $g$  came by weakening from  $k$ ,  $sk$ , as it seems open to us to perceive from the fact that of the 24 above noticed secondary roots in  $g$  10 have beside them expanded roots in  $k$  with a meaning either identical or similar ( $arg$  and  $ark$  [to shine], etc.). 3rd, Determinative  $gh$  in 29 roots ( $argh$  [to move violently] from  $ar$  [to excite], etc.): this suffix which gave rise to radical forms probably of great antiquity, and afterwards fell into disuse, is of doubtful origin (perhaps from  $gha$  [to make to be]). 4th, Determinative  $t$  in 24 radical forms of the primitive Aryan ( $kart$  [to cut] from  $kar=skar$  [to shave], etc.): these roots, determined by  $t$ , do not absolutely differ from denominatives from nominal stems formed with the suffix  $-t-$  and with others of <sup>52</sup> which this sound is the fundamental characteristic. 5th, Determinative  $d$  in about 50 Proto-Aryan verbs ( $kad$  [to fall, to yield] from  $ka$  [to go], etc.): this  $d$  seems to Fick to be derived from the root  $da$  [to give, to make]. 6th, Determinative  $dh$  in 24 secondary roots of the fundamental Aryan ( $kudh$  [to hide, to guard] from  $sku$  [to cover], etc.):  $dh$  goes back to  $dha$  [to make]. 7th, Determinative  $p$  ( $kap=skap$  [to make hollow] from  $ska$ , with a like meaning, etc.): this  $p$ , as Benfey observed, is closely connected with the root  $ap$  ( $pa$ ) [to make] (whence  $ap-as$ ,  $op-us$ ). 8th, Determinative  $b$ : this exists only apparently, because the roots in which we find it are either parallel forms of roots, in  $bh$  or  $v$ , or formed with reduplication. 9th, Determinative  $bh$  in 12 roots of the Indo-European mother-language ( $gharbh$  [to grasp] from  $ghar$  [to take], etc.): an element not used in this function after the first division of our stock, and of obscure origin (from  $bha$  [to appear] or from  $bhu$  [to become]?). 10th, Determinative  $r$  in about 50 secondary roots, though it is only in a number not much exceeding half that they can be proved to have come from more simple roots, perhaps owing to the very

remote antiquity of such formation (as an example of it may serve *mar* [to destroy] from *ma* [Lat. *minuere*]): whence this *r* has arisen is not known. 11th, Determinative *s* in 50 examples (e. g. *uks*, *vaks* [crescere] from *ug* [augere]): it continued to be used in the Indo-Iranic section and the European when already separated, and it is found again also in the individual languages: the origin of this element has not yet been discovered.<sup>1</sup>

53 Having reached this point of our exposition of Fick's doctrine on the subject of the Proto-Aryan roots we think it will perhaps be not unwelcome to some among our readers to see what and how numerous are those roots which, subjected to the analyses described, discovered themselves as primary, and what is their respective significance. To satisfy this very natural curiosity, we give the following table, which those who have less craving for such ideas will be able, as Manzoni would have said, to skip at once, passing on directly to the considerations which will follow.

## PRIMARY ROOTS OF THE PROTO-ARYAN LANGUAGE.<sup>2</sup>

### I. *Roots formed from a vowel only.*

*a*, to breathe — *i*, to go, to press — 1. *u* (*va*), to cry, to resound; 2. *u* (*va*), to twist, to weave; 3. *u* (*av*), to be con-

<sup>1</sup> Fick, observes Windisch, in the theory of the determinatives agrees with Curtius, but he also discovers them where hitherto no one had seen them. That every final consonant of a root beginning with a consonant is a determinative may be true, but it is not proved. As far as concerns the origin of the determinatives, continues Windisch, Fick's hypotheses do not appear at all consistent with what he affirms at pp. 1000-1 with respect to the al-

most complete incorruptibility of the sounds in the Proto-Aryan period.

<sup>2</sup> He who would like to see also the secondary roots may turn to the *Vergleichendes wörterbuch*, etc., 2nd ed. pp. 1016-43.—In this part of the present book it seems to us quite needless to include in square brackets, as in almost all the other parts, the meanings of the words quoted, because here there cannot possibly be confusion of any sort.

tent; to rejoice; to be fond of; to observe; to promote, to help.

## II. *Roots formed from the vowel a and a consonant.*

1. *ak*, to reach, to penetrate, to be sharp; 2. *ak*, to see; 3. *ak*, to bend, to curve — 1. *ag*, to push, to lead; 2. *ag*, to make white, clear, to smear — 1. *agh*, to desire, to need; 2. *agh*, Lat. *angere*; 3. *agh*, to speak — *ad*, to eat — *ap*, to reach — 1. *abh*, to resound; 2. *abh*, to swell — *am*, to assault, to hurt — 1. *ar*, to go, excite, push, raise; to reach, attain, strike, hurt; to stick in, fix in, annex; 2. *ar*, to disjoin, to loosen; 3. (*ar*), to be clear, to shine; 4. *ar*, to utter <sup>54</sup> sound — *as*, to throw.<sup>1</sup>

## III. *Roots formed from a consonant and a.*

1. *ka*, to reach, penetrate, sharpen, excite (see 1. *ak*); 2. *ka*, to bend (see 3. *ak*); 3. *ka*, to utter sound; 4. *ka*, to desire, crave, avenge; to prize, to honour; 5. *ka*, to burn (?) — 1. *ga*, to push, to excite (see 1. *ag*); 2. *ga*, to be clear (see 2. *ag*); 3. *ga*, to utter sound — 1. *gha*, to leave alone, not to shut close, to gape, to desire (see 1. *agh*); 2. *gha*, to utter sound (see 3. *agh*); 3. *gha*, to strike, to push (see 1. *gha* ?) — *ta*, to stretch, extend; to melt — 1. *da*, to divide, distribute food, distribute = to give; 2. *da*, to appear, look, be clear, recognise; 3. *da*, to bind; 4. (*da*), to move — 1. *dha*, to place, to make; 2. *dha*, to stream — 1. *na*, to incline, bend; to divide; 2. *na*, to bind (?); 3. (*na*), to cry — 1. *pa*, to reach, to obtain (see *ap*); 2. *pa*, to touch, to

<sup>1</sup> "To *as* [to throw] the root *ās* [to sit, to stand] is related in the same way as *jacēre* to *jacere* . . . With *as*" (for *ās*) "[to sit, to stand] the root *as* [to find oneself, to he] is originally identical, as is seen from Zend, in which *āç-tē* [he sits] is used in the sense of *aç-ti*"

(ib. p.1024).—Beside the roots noticed there stand others with the same, or at least similar meaning, with the vowel *a* preceded by the consonant, which in the roots just quoted follows the vowel, as will be seen in the following part of the table.

strike ; 3. *pa*, to swell, drink, be full ; 4. *pa*, to pant, to dry up — *ba* (a word denoting a sound) — 1. *bha*, to appear, to make manifest ; 2. *bha*, to strike, to break (bend)<sup>1</sup> — 1. *ma*, to diminish, make vain, lift, alter ; 2. *ma*, to alternate, to exchange ; 3. *ma*, to measure, form by measuring, construct ; to consider, think, govern ; 4. (*ma*), to wash, to gush forth ; 5. *ma*, to remain ; 6. *ma*, to roar, to bleat — *ra*,  
 55 to abide, remain willingly, be content, love (see *ar*) — 1. *va*, to blow ; 2. (*va*), to push ; 3. *va*, to gush forth, to wet — 1. *sa*, to throw, loosen, let go (see *as*) ; 2. (*sa*), to tie (?).

IV. *Roots formed from a double consonant and a.*

1. *kva*, to swell (be hollow), to swell (be turgid), to be strong, strengthen, promote ; 2. *kva*, to burn, to shine ; — 1. (*ska*), to dance, to move oneself ; 2. (*ska*), to cover, to obscure ; 3. *ska*, to glow, to appear ; 4. *ska*, to rest, abide, possess ; 5. *ska*, to cut up, cleave, hollow out — 1. *sta*, to utter a sound, to groan, to thunder ; 2. *sta*, to hide, to steal ; 3. *sta*, to stand — *sna*, to wash, bathe, swim — *spa*, to draw, to have space — (*sva*) to utter a sound.

Other investigations have yet to be made, Fick teaches us, with respect to the primary roots. And, in the first place, as it is manifest, according to the author, that the period in which the roots took their rise preceded the formation of the vowels *i*, *u*, the roots formed merely of these vowels, and reckoned among those of the first class, ought to be placed, in the form *ja*, *va*, (whence by weakening *i*, *u*), among those of the third class : Fick discerns most certain proofs of his opinion in the ancient and numerous formations of secondary roots springing from them, and these secondary roots exhibit not *i*, *u*, but *ja*, *va*, as their fundamental element. In the second place, when roots

<sup>1</sup> The radical form *bha* is found only on European ground : but, according to Fick, if account be taken of the signification of this root, there

can be no doubt of its existence in the primitive and fundamental language of the Aryans (*ibid.*, p. 1036).

of the same signification, and formed from the same sounds, but disposed in a different order, as for example *ak* and *ka*, stand the one beside the other, it would be well to examine which is the primitive form, which the later: because, though there may be general reasons in favour of the originality of the roots with initial vowel, it does not appear nevertheless that such reasons suffice for the solution of the problem; the solution would do away with ten roots by identifying them with others. Lastly, the question <sup>56</sup> should still be raised whether several of the primary radical elements phonetically undistinguished, but different, in appearance at least, in their meaning, cannot be reduced to a signification common to all, and hence to a single root.

While setting forth the doctrine of Fick we have here and there alluded to the weighty opinion of Windisch, who, in the article quoted, discussed it with judgment worthy of him and of the book which he had undertaken to examine. But we cannot take leave of a work so important and so attractive without expressing our opinion about it. That the learned author has been led by the boldly systematic nature of his own work, and perhaps of his genius, to overstep certain limits before which others would with greater prudence have halted, we will certainly not deny. Not always perhaps can it be said that he has paid sufficient attention to the obstacles which opposed themselves to his investigations: obstacles which consist in our imperfect knowledge of the primitive and fundamental dialect of the Aryans, and which to a very great extent neither power of genius nor constancy of research can ever remove. But the aim which Fick set himself, the method which he followed, are in substance quite consistent with the principles of philological investigation. If by the comparison of the common elements it is permissible to ascend from several words to the stem, from several secondary stems to the primary, from several primary to the root, who will dispute with the

scholar the right of comparing together several roots which have, both in the sounds of which they consist, and in their different meaning, a fundamental common element, and of reconstructing the primary root from which sprang all such secondary roots? Of the primary radical Proto-Aryan elements the languages of that stock preserved to us probably only a part; a certain number of them has been, 57 in all probability, irreparably lost. Such also we must believe to have been the lot of several secondary roots, which, if compared both in their phonetic constitution and in their meaning with other cognate roots which have come down to us, would undoubtedly enable us to discern more clearly the derivation of these from primary roots. Further, in order to explain the genesis of certain roots which have the appearance of being secondary, and the derivation of which from a primary root can with difficulty be conceived, it should perhaps be admitted that, in the period of formation of the secondary roots, a period of remote antiquity, the power of producing new roots had not yet diminished, and that these last could be coined like secondary roots. We must not conclude this paragraph without noticing the posthumous work of Chavée, entitled *Idéologie lexicologique des langues indo-européennes* (Paris, 1878), in which are set forth the latest results of those etymological studies of which he had already given a very remarkable specimen in the *Lexicologie indo-européenne*, etc. (Paris, 1848).<sup>1</sup> Lexicological ideology, writes Chavée, is the science of the laws which govern the transformation of ideas, or of the sensitivo-logical groups incorporated in words, just as lexicological phonology is the science of the laws which govern the transforma-

<sup>1</sup> With regard to this work see the opinion of A. Kuhn and of Ebel in the *Zeitschr. f. Vergl. sprachforsch.*, vi. 50-1. Chavée has given us a very compendious exposition of his etymological dec-

trine also in the article *La science des langues appliquée à l'enseignement des langues*, published in the *Revue Germanique*, x. 384-416; see esp. pp. 406-11.



tion of the sounds contained in the syllabic organisms of the thought. This method, which never neglects either the one or the other of these two classes of laws, is called by the author the 'integral method.' The elements of the primitive and fundamental Aryan are, besides certain interjections, pronoun-adverbs and verb-nouns. The simplest pronominal or verbal roots, which constituted the first stratum of the language of the Aryans, are monosyllables consisting either of a vowel alone or of a consonant sometimes preceded by *s*, and always followed either by one of the three fundamental vowels (*a*, *i*, *u*), or by the semivowel *r*. Passing by considerations of less importance, we come at once to the law of growth of the primitive verbs according to Chavée. The reported actions, echoing in the *ego*, derive from it those echoes which are generally called 'onomatopoeic' and by the author 'phonomimes:' these are few in number and, according to their various signification, are divided into three kinds: 1, 'crying;' 2, 'blowing;' 3, 'grating.' On the other hand the silent actions, profoundly felt and conceived in their cause, or in the *ego* which uses its own effort to bring into actuality a motion, generated the 'dynamomimes,' that is to say imitations of muscular sensations of effort, although, in the majority of cases, the prominent image of an active effort, so clear at the beginning, may have become more and more obscure, until it is no longer perceived at all. These dynamomimes represent: I. Actions which are based upon a compressive or convergent motion (genus 'to press'—species 1, 'to place;' 2, 'to bend;' 3, 'to condense'); II. Actions which are based upon an expansive or divergent motion (genus 'to extend'—species 1, 'to go;' 2, 'to extend;' 3, 'to spread'). Therefore "the simple primitive verb consists in the intimate indissoluble union of a sensitivo-rational occurrence called 'action,' and of a monosyllabic oral gesture which reproduces, by spontaneous imitation of impression, the dominant sensation, auditive

or muscular, of this same compound occurrence which it brings to life again and in which, having penetrated thither by means of syngenesiis, it will remain shut up henceforward as a perpetual abbreviative sign." Such are the fundamental ideas of Chavée's lexicological ideology. The limits which we have assigned to these *Historical and Critical Remarks* do not allow us to give a minute analysis of them; but we believe it not even necessary to convince the reader that in the treatise in question, as only too often in the works of the same author, the bold assertions are more numerous than the proofs, and that, both in the treatment of the ideas and in that of the sounds, he has relied upon a method in which it is impossible not to perceive a lack of scientific strictness.<sup>1</sup>

§ 11. And here we are confronted afresh by a problem which we had to notice in the last chapter: the problem of the relations between the Aryan and the Semitic roots. F. Müller, in the monograph quoted above (§ 8, p. 40), like Renan and Schleicher, himself too lays stress upon the triconsonantism of the Semitic root, and is inclined to think that it was pronounced originally also as trisyllabic:

<sup>1</sup> Shortly after having written these words we read in a recent number of the *Revue critique*, etc., (no 14, pp. 218-19) a criticism which seems to us to be in substantial agreement with our own. Somewhat bold, but much more faithful to the laws of philological investigation, was Grassmann, we think, in his work on the *Ursprung der präpositionen in indogermanischen* (*Zeitschr. f. vergl. sprachforsch.*, xxiii. 559-79). The author concerns himself only with the true prepositions, or those "which may be fused with the verb in an ideal unity, and be joined with it also materially," to which he adds the nominal prefixes which have

plainly the form of them: he afterwards limits his researches almost exclusively to Vedic Indian, Homeric Greek, Latin, Gothic, Old Norse, Old Saxon, Anglo-Saxon and High German. After having investigated the laws of the formation of the true prepositions, he lays bare their simplest elements, and sets forth their various forms and meanings, endeavouring to arrive at the original meanings, and concluding that in the true prepositions should be sought the origin of the suffixes of declension, with the exception of the nominative and the accusative.

to him the Semitic root does not seem to be a real root such as is undoubtedly the Indo-European monosyllable. Until (so says Müller) it has been discovered by a strictly rigorous method what is the process of development of the Semitic roots with three consonants from monosyllabic roots, the radical elements of Semitic and of Aryan will always stand to one another as incommensurable quantities.

On this subject Ascoli exhibited a contrary opinion both in the letter mentioned above to A. Kuhn and in the *Studi ârio-semitici*.<sup>1</sup> As at the base of the Aryan verb he finds, not a simple monosyllabic root, but in fact a disyllabic or trisyllabic *nomen agentis*, and in this noun may be distinguished two parts, the second of which is derivative,<sup>58</sup> precisely in the same way the supposed radical element of the Semites is constantly formed. The monosyllabic root becomes a root of two or three syllables by the addition of a suffix: consonants which belong only to this suffix were considered afterwards by the Semites as radical, as in Sanscrit some roots which are certainly not such were regarded as primary. The illustrious philologist gave also a table of roots which seemed to him Aryo-Semitic. We read a severe critique on the results of Ascoli's researches in the work mentioned of Friedrich Delitzsch. He thinks the number scanty and the worth little of the comparisons between Aryan and Semitic roots. The theory above noticed of the nominal suffixes appears to Delitzsch, when strong consonants are in question, still less consistent with the nature of the Semitic dialects than with that of the Aryan. And in fact if there was a long period of time during which certain syllables were adapted to form many and various *nomina agentis*, how in the world could they have disappeared almost entirely, in a period

<sup>1</sup> Article 2 (*Memorie del R. Istituto lombardo di scienze e lettere, classe di lettere e scienze morali e politiche*, x. 13-36).

less ancient, from the formation of the Semitic stems and words? How is it that similar pronominal stems for the most part do not even exist in the languages of that stock which have come to our knowledge? Is it possibly a matter of doubt that an increase or weakening of meaning generally corresponds to the greater or less force of the third consonant of the Semitic stem? And is he at liberty to attribute such and so great an influence upon the meaning of the root to pronominal stems all of which possess only an indicative sense?

More severe still is the judgment which Nöldeke,<sup>1</sup> and Schleicher<sup>2</sup> pronounced upon the first Aryo-Semitic lexical comparisons attempted by Raumer and published in 1863. But it is our business to take into consideration the more recent works of the industrious investigator who showed in them that he had been converted to a better method. And we propose to describe the limits within which Raumer thinks it expedient to confine the comparison of the Semitic roots with those of Aryan stock.<sup>3</sup> After having noticed how difficulty seems to be thrown in the way of such a comparison by the different constitution of the Aryan and the Semitic roots, Raumer mentions the opinion so frequently put forward, that for the comparison of the one kind with the other it ought to be considered a necessary preparation to trace back all the Semitic roots with three consonants to a more simple form. This opinion does not find much favour with the author, who saw that the attempts made at such a reduction so far were idle. Fortunately there are Semitic roots which can, without subjecting them to that test, be compared with the Aryan: they are the weak roots, which

<sup>1</sup> *Orient und occident*, ii. 375, sqq.

<sup>2</sup> *Beiträge*, etc., iv. pp. 120 and 242-47.

<sup>3</sup> See the monograph *Die urverwandtschaft der semitischen und indogermanischen sprachen* quoted at p. 41.

in great number, either have only two different consonants or show clearly the idea denoted by the two stronger sounds, and exhibit often the disappearance of the lighter sounds which contribute to make up the roots. And again, as regards the strong roots, the opinion that they must all be reduced to a smaller number of consonants before comparing them with the Aryan is, according to Raumer, erroneous, and is founded on the presupposition that none of the roots of our stock had more than two consonants: a presupposition contrary to facts.<sup>1</sup> Raumer deserves honourable mention also for the abundance of the comparisons attempted and for the efforts made, as we have remarked above, to discover phonetic equations. But it was much to his disadvantage that he circum-<sup>60</sup>scribed the comparison within too narrow limits, and especially that he did not go back to those forms of the Semitic and the Indo-European word, which modern philology has demonstrated to be the most ancient.

Availing himself of the results obtained by the preceding investigators, and especially of the studies of Raumer, Delitzsch also attempted the solution of the difficult problem. He distinguishes triconsonantism from polysyllabism which he denies to the Semitic roots, because all the vowels in this stock of languages have the power of grammatical determinations and yet are not elements of the roots; with what vocal sound the consonants of the primitive Semitic roots were pronounced remains unknown to us.<sup>2</sup> After having himself, too, attempted his reduction of Semitic stems to more simple forms, the author holds that the Semitic roots, when restricted to their essential

<sup>1</sup> It is hardly necessary to state that Fick's investigations on the subject of the Aryan roots have given results unfavourable to this assertion of Raumer.

<sup>2</sup> It is precisely in this that we find one of the strongest arguments adduced in proof of the profound divergence between the roots of the two stocks.

clements, appear to be formed from one, two, or three consonants, just like the Aryan roots.<sup>1</sup> Thus he establishes the possibility of a primitive radical relationship between the two great stocks, and as a sample of a more extensive work, he exhibits a goodly number of comparisons between Aryan and Semitic roots with *k* and with *g*: and the result of these comparisons is, according to Delitzsch, the discovery of 100 Aryo-Semitic roots:<sup>2</sup> another hundred will, he

<sup>1</sup> What we said just now, with reference to Raumer's doctrine, of the last researches on the subject of the Indo-European roots, may hold good also for this assertion of Delitzsch.

<sup>2</sup> We think it will be not unwellcome to our readers if we enumerate them in the present note.

*abh*, to swell; *ark* (*rak*), to order, marshal, arm; *av*, to aid, to desire; *u*, to cry, to roar; *ud* (*vad*), to gush forth, to wet; *kan*, to sound; *kap*, to curve, to bend; *kar*, to be cold; *kar*, *karkar*, *kark*, to call; *kar* (*kvar*), to turn; *kar*, *kal*, to burn, to cook; *kart*, to cut; *kart*, to contract; *kard*, *krad*, to brandish, to shake; *karp*, to pluck, to snatch; *kal*, to put in motion; *kal*, to embrace, to bide; *kas*, to scratch; *ki*, to honour; *ku*, to cry; *ku*, to burn; *ku*, to be hollow, to swell; *kubh*, to be made round; *kus*, to embrace, to surround; *krī*, to buy; *kru*, to knock against; *gan*, to bend; *gabh*, not to shut close, to be deep; *gam*, to be full; *gar*, *gargar*, to swallow; *gar*, *gargar*, to cry; *gar*, to rub, to grind; *gar*, to move one's self; *gal*, *gul*, to be round, to wallow; *gu*, to cry; *grabh*, to grasp; *gras*, to swallow, to eat; *gras*, *gars*, to sound; *ghad*, to take, to grasp; *ghar*, to be red-hot; *ghart*, to flow

over anything; *ghars*, to be rough to scratch; *ghu*, to call; *tak* (*tvak*), to arrange, to spread; *tar*, to tremble; *tarp*, to satisfy; *tal*, *tul*, to raise; *trap*, to turn; *trud*, to push; *trup*, to break in pieces; *dar*, to burst, to tear; *dhu*, to move violently; *nu*, to incline; *nud*, to push; *pat*, to be open, to be spread; *park*, to cleave; *bha*, to shine; *bhag*, to glitter; *bhar*, *bhal*, to be clear; *bhar*, to cut, to pierce; *bharg*, to shine; *bhal* (*bhlu*), to bubble, to flow; *bhid*, to divide, to cleave; *bhrak*, to sparkle; *ma*, to measure; *mak*, to press, to knead; *mad*, to extend, to measure; *mad* (*mand*) to be quiet, to delay; *mar*, to bind fast; (*mal* to wither); *marg*, to rub, to blot out; *mard*, to crumble, to soften; *mardh*, to be loosened; *mu*, to wet, to stain; *rik*, to pour out, to empty; *ru*, to roar; *vag*, to be of great weight; *sak*, to be attached, to follow; *sak*, *ska*, to cleave, to cut; *sad*, to sit; *sar*, to go, to hasten; *sar*, to tie; *sark*, to throw, to strike; *sarg*, Lat. *dimittere*; *sarbh*, to swallow; *sik*, to moisten; *su*, to shine; *su*, to put in violent motion; *ska* (*ski*), to settle down, to dwell; *skap*, to scrape; *skarp* (*karp*), to be sharp, to be whetted, to cut; *sku*, to look; *sta*, to stand; *stak*, to curdle; *stag*, to cover; *star*, to spread on the

hopes, be the fruit of new researches. The book of the learned Semitic scholar has, in our opinion, at any rate the double merit of not having been written without taking account of preceding labours, and of not abandoning those wise methodical principles against which an investigator should never rebel, especially in so difficult a subject. We ought, however, to notice the opinion expressed with reference to this task by that learned and intelligent student of philology, and particularly Semitic philology, Sayce, in a work which we shall certainly have another opportunity of discussing.<sup>1</sup> "If," he writes, "Aryan and Semitic are to be compared, we must commence with the structure and the grammar, not with the lexicon. Moreover, Assyrian and old Egyptian are deliberately ignored—indispensable as they would seem to be if we would find the oldest obtainable forms of the radicals; and the roots selected for comparison are all on the one hand, more or less of an <sup>62</sup> onomatopœic nature;<sup>2</sup> and, on the other hand, contain three consonants, two of which may be pronounced together without the intervention of a vowel." What would Delitzsch do with certain other roots? Besides, there are not wanting objections of less weight which Sayce passes by in silence; one of which is, to take an example, the great importance of the vowels in Semitic, an importance which we should hardly know how to harmonise with a theory in which necessarily no great weight is attached to them.

ground; *stal*, to stand firm; *spa*, to stretch one's self; *sparg*, to bud, to shoot; *spal*, to precipitate, to fall; *smak*, to rub, to smooth; *smar*, to remember.

<sup>1</sup> *The Principles of Comparative Philology*, 2nd edition, London, 1875, p. 76, note.

<sup>2</sup> It should be observed that Fick does not admit onomatopœa in Proto-Aryan except in very rare cases

(*Vergl. wörterbuch*, etc., 2nd. ed., p. 932): Geiger (*Der ursprung, der sprache*, Stuttgart, 1869, p. 26) affirms positively that no certain example is as yet known of imitation of sounds in language. See also Benloew, *De l'onomatopée* (in the *Aperçu général de la science comparative des langues*, Paris, 1872, pp. 93-119).

Before closing these remarks on the radical union of Aryan and Semitic we may be allowed to mention a monograph published four years ago by Grill.<sup>1</sup> He starts from the principle that the physiological analysis of the roots is a necessary preliminary to an etymological comparison of two linguistic stocks. After some introductory observations on the idea and the nature of the root, and on its form, he proceeds to discuss the relations existing between the Aryan and the Semitic roots considered in their phonetic constitution. A carefully made comparison discovers as a "specific form" of the Aryan roots the vocalism, of the Semitic the consonantism: because the Indo-European vowel is (in contrast with the Semitic) altogether independent, stable, and a peculiar element of the root, so that it also contributes to express the idea signified by the root. The author then goes on to treat of such relations between the roots of the two stocks with reference to their general type. He opposes the Aryan "formalism" to the Semitic "materialism:" because, "while Indo-Germanic has directed its power of production and its formative capacity with greater zest to that part of the language which aims at representing the form of the idea, on the contrary the creative instinct in Semitic has laboured, with an efficacy altogether superior, in the formation of the roots themselves, or in the matter of the idea." A first proof of his assertion he discovers in the variety which is apparent in the phonetic constitution of the Aryan roots, and in the uniformity of the Semitic: it would therefore be absurd to derive the first kind from the second or vice versa. But it is possible, remarks Grill, to conceive a primordial type, from which springs a biliteral Semitic root (to use the ordinary phrase) and an Aryan root, a consonantic root

<sup>1</sup> *Über das verhältniss der indo-germanischen und der semitischen sprachwurzeln. Ein beitrag zur physiologie der sprache (Zeitschrift der deutschen morgenländischen gesellschaft, xxvii. 425-60).*



(if it might be so termed) and a vocalic. "To such an original form we can ascend directly by assuming that the primitive roots have all, if the truth must be told, had a vowel as a material, essential element, and have consequently been formed according to the law of monosyllabism, but that the radical vowel has everywhere been the same," that is to say *a* (monophonic period, alpha-language). This *a*, peculiar to all the roots, would therefore be a material element of them, but lacking any specific value. Hence "the linguistic spirit could either increase the importance of the radical vowel or destroy it altogether: in the first case was produced a vocalism, in the second a consonantism." The primitive type common to the two great stocks he would like to be ascribed to the class of the Radical or Isolating languages, without however affirming that there has existed a single language of such a nature ("alpha-sprache") whence all the others have derived their origin. The two opposed principles of the Semitic and the Aryan were developed in the period of Agglutination. A second <sup>64</sup> argument in favour of his position Grill derives from the wealth of Aryan and the poverty of Semitic in the formation of the stems and the words; a third from the varying productiveness of the roots; for there are found perhaps "in Hebrew relatively at least ten times more roots and ten times fewer words than in English." And lastly, noting the ethnographic importance of this problem the author declares as a characteristic of the Aryan spirit formalism, of the Semitic materialism: in the synthesis of Indo-Germanic formalism and Semitic materialism consists, according to Grill, the eminently human character of Christian civilisation.—It is hardly necessary to observe that the doctrine put forward in this treatise (which the philologist reads not without pleasure) cannot be said to be grounded on facts to such an extent as to be received as a theorem of science. Such also is the opinion manifested

with respect to this monograph in an article of the *Göttin-gische gelehrte anzeigen*.<sup>1</sup>

§ 12. In the pamphlet above mentioned of Schultze, *Indogermanisch, semitisch und hamitisch*, we find a comparison instituted 1, between roots; 2, between expansions of roots; 3, between combinations of roots in these three linguistic stocks. A few considerations will sufficiently enable the cautious reader to form a fair idea of the worth of such comparisons. As regards the first, that of the roots, we will observe, to begin with, that the primitive radical elements, the various forms of which in the Aryan, Semitic and Hamitic languages are compared together, do not exceed thirteen in number. We will add that it is not always without great efforts and ado that we pass from one meaning to another;<sup>2</sup> that he has very little regard for phonology who considers as having a common  
65 origin two roots which are related to one another, for example, as the Aryan *dha* and *da*;<sup>3</sup> lastly, that the existence of an Indo-European root *a* [to make, to happen, to be] is very far from being proved.<sup>4</sup> The other two comparisons, between expansions and between combinations of roots, we do not even think it necessary to notice: for we believe that no valid proof can be derived from them in support of the argument to which Schultze's pamphlet is devoted.

§ 13. Still less in harmony with the severe but just exigencies of modern philology are the etymological com-

<sup>1</sup> 1874, pp. 119-23: the article is signed with the two initials H.E. well known to philologists.

<sup>2</sup> We will only quote in proof the senses attributed to the root *ma, mu, mi*, and all derived from the first which we will point out: in order to remove all risk of inexactness we will not translate, but quote the actual words of the author, regretting that we cannot quote also all the

words adduced in confirmation and exemplification of those meanings: "*ma, mu, mi*, stumm, sein, daher, 1. denken, sinnen, minnen (liebend gedenken) . . . 2. stumm sein, todt sein . . . 3. stumm und doch lebendig, beweglich sein, wie wasser, daher feucht sein, netzen . . . ." (pp. 14-5).

<sup>3</sup> See p. 13.

<sup>4</sup> See p. 11.

parisons attempted, three times at least in the last few years, between Aryan languages and Chinese. First in order of time comes Chalmers with a book on the origin of the Chinese and their relations with the western nations.<sup>1</sup> In the 3rd chapter<sup>2</sup> he proceeds to compare 300 Chinese words with words of other languages. On the value of the results obtained let us hear himself: "To pronounce sentence on all the individual cases adduced in the following table it would be necessary to have an extensive acquaintance with languages and with the principles of comparative philology, an acquaintance which I do not at all pretend to possess. I offer it as raw material, from which others more capable than I may extract the grains of gold. But, such as it is now, it discovers at least a little more than fortuitous resemblance." The complete absence of true scientific analysis, of fully demonstrated phonetic equations,<sup>66</sup> forbids us to agree with the opinion expressed by the author himself at pp. 37-8 on the importance of his comparisons.

Nor are we inspired with greater confidence by the strange comparisons of Edkins<sup>3</sup> between Greek and Sino-Mongolic words, between Latin and Sino-Mongolic, and between English and Chinese words: from which comparisons the author is induced to believe that the Sino-Aryan civilisation may be recognised as the primitive Aryan! We shall content ourselves with regretting that Edkins has not understood the necessity of a scientific

<sup>1</sup> *The origin of the Chinese: an attempt to trace the connection of the Chinese with western nations in their religion, superstitions, arts, language and traditions*, London, 1868.

<sup>2</sup> Chap. iii.: *The Chinese spoken language* (pp. 35-55). See in particular *A comparison of 300 words*

*in the Chinese with those of other languages* (pp. 43-55).

<sup>3</sup> *China's place in philology: an attempt to show that the languages of Europe and Asia have a common origin*, London, 1871: see especially chap. xiii. pp. 361, 363, 375-83; chap. xiv. p. 386.

method, and that a French review, generally highly commendable for its critical power, has passed a judgment on this work, which errs undoubtedly in the direction of excessive indulgence.

Nor did the result of the comparative investigations of Chalmers and Edkins, appear very deserving of credit to G. Schlegel, who set himself the task of making anew similar researches by following the rigorous principles of the German linguistic school, and availing himself of all the few books which he could consult in the country where he lived, unpropitious as it was to such studies. As a product of his researches we have the book published by him on the affinity of the primitive Chinese roots with the Aryan.<sup>1</sup> The author commences with the results of the studies prosecuted towards the beginning of this century by Toan-ta-ling on the ancient Chinese pronunciation. And he observes, in opposition to the opinion of a great philologist, that in Chinese too there are words on which analysis may be practised. Then, after some introductory remarks, he gives a table of roots which he believes to be Sino-Aryan, among which he notes especially  
 67 roots of verbs and of pronouns. This exposition is followed by a semasiology, in which he attempts, by means of Chinese, to ascend to the primitive meaning of certain Aryan words. In all these investigations criticism cannot but discover two great defects which we have been before compelled to censure in several of the works noticed: 1st, comparisons grounded not on the base of an exact phonology, but on the too often fallacious resemblance of sense and sound; 2nd, fantastic derivations of meanings from meanings. These defects spring assuredly from no other source than the imperfect scientific education of the author.<sup>2</sup>

<sup>1</sup> *Sinico-Aryaca ou recherches sur les racines primitives dans les langues chinoises et aryennes.* Batavia, 1872.

<sup>2</sup> In proof of this it may suffice to quote the comparison between

But, although the works which we have just examined are not such that their object can be said at least in part to be attained, nevertheless, for one who attentively considers the causes which will make them barren of results, they may be of no slight utility, in that by their fate the necessity of a severely scientific method seems to be more and more conspicuously proved. And the belief in such necessity will also be enhanced by some of the principal works which have been published in the last few years on the morphology of the Aryan dialects, and which we shall next discuss.

<p>the Chinese <i>lân</i> and the Greek <math>\lambda\alpha\mu\text{-}\beta\alpha\nu\omega</math> (sic, p. 40) and the following words: "il est constant que</p>	<p>dans plusieurs mots aryens la lettre <i>l</i> primitive s'est indurcie en <i>r</i>" (p. 140).</p>
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## CHAPTER III.

## Stems and Words.

<sup>68</sup> § 14. The numerous and intimate relations which exist between stems and words, between words and their combinations, and still more the difficulty, and we would almost say the impossibility, of separating from each other, in some of the books which we are going to examine, the different portions in which these subjects are discussed, induce us to unite in this chapter what, according to an arrangement more strict, but too hard to follow, ought to form the matter of three chapters—we mean the results of the most recent studies on the form and meaning of stems and words considered independently of each other, and in their reciprocal relations in the unity of the compound and of the sentence, together with some notice of the relations existing between sentence and sentence. But, as far as may be possible, we shall, in treating all the subjects mentioned, make our critical exposition start with the form and origin of the constituent suffixes of stems and words, and then proceed to the synthetic use of them: the first part will be next subdivided so that the reader, to begin with, may acquire a knowledge of the morphological works of greater dimensions and of more audacious novelty, and these may be followed by the writings whose subject is more special. The number of the works of various magnitude which we shall have to consider, and the nature of some of them, impose upon us the obligation to be brief, to limit our discussion to fundamental conceptions, to abstain altogether from a too great particularity of treatment; descending to minute disquisitions

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only when it appears absolutely necessary in order to make the system or the method of an author understood. We shall be forced to feel only too well this deplorable necessity frequently even in the remarks which we proceed to make on the first work of which it is our business to speak in this chapter, that of Wilhelm Scherer.<sup>1</sup>

In this book, which, in spite of imperfections neither few nor slight, attracts to itself for its learning and originality the attention, the respect and often also the sympathy of the philologist, we must distinguish two parts which in the work and the intention of the author are fused together: the part which relates to the special investigation of Teutonic phonology and morphology, and that which is made up of the general researches into the sources of Aryan flexion;<sup>2</sup> researches to which Scherer felt himself committed by the nature of his genius and by his resolution to penetrate as far as might be possible into the inner constitution of the Germanic languages, and to discover their laws and causes, tracing in the formation of the language the formation of Teutonic nationality.<sup>3</sup> It is clear that with the first part we need not concern ourselves in this book, in which account is taken only of studies having for their object the entire Aryan stock: of the second we shall speak in the present paragraph, confining ourselves principally to the already cited discussion of the personal pronoun, following the order of the author, and availing ourselves of the critical remarks which, independently, were published by A. Kuhn<sup>4</sup> and Steinthal<sup>5</sup> on Scherer's work.<sup>6</sup>

<sup>1</sup> *Zur geschichte der deutschen sprache*, Berlin, 1868.

<sup>2</sup> See especially pp. 213-361 (*Das personalpronomem*).

<sup>3</sup> Read carefully the epistle dedicatory to Karl Müllenhoff (iii.-xiv).

<sup>4</sup> *Zeitschr. f. vgl. sprachforsch.*, xviii. 321-411.

<sup>5</sup> *Zeitschrift für völkerpsychologie*, etc., v. 464-90.

<sup>6</sup> See also the *Revue critique d'histoire et de littérature*, 3rd year, 2nd semester, pp. 354-7.

To investigate the various function, the various lot of the personal pronouns in the formation of the active and the middle, Scherer began with the following phonetic law: "the atonic *a* of monosyllables already independent, which were fused with their verbal or nominal stem in the unity of the word, is frequently lost without leaving a trace of itself."<sup>1</sup> Hence it happened, according to the author, that, e. g., in Greek the final vowel *a* of the pronominal stem *sa* vanished in the 2nd pers. singular of the active aorist  $\xi\text{-}\theta\eta\text{-}\varsigma$  (from the Proto-Aryan  $\acute{a}\text{-}dh\bar{a}\text{-}sa$ , in which this *a* is not accented), while it was preserved, after passing to *o*, in the corresponding middle form,  $\xi\text{-}\theta\epsilon\text{-}o$  (from \* $\xi\text{-}\theta\epsilon\text{-}\sigma o$  = orig.  $a\text{-}dha\text{-}s\acute{a}$ , in which the *a* whence it is derived is accented). Another example adduced by Scherer is the Sanscrit  $\acute{d}vik\text{-}\acute{s}\acute{e}$  = Proto-Aryan  $\acute{d}vik\text{-}s\acute{a}\text{-}i$ <sup>2</sup> =  $\acute{d}vik\text{-}tv\acute{a}$  [hates-self thee, thou art hated], an old passive which became confounded with the middle and combined in itself the one and the other meaning. Hence in the passive the expression of the person differed from that of the active only in the accent: the atonic pronoun denoted the active, the accented the passive; the final *a* of the first was lost, that of the second was preserved by the phonetic law above mentioned.<sup>3</sup>—In

<sup>1</sup> Kuhn rightly remarks that this law is not proved by Scherer.

<sup>2</sup> Of the final *i* of this and the analogous forms notice will be taken shortly.

<sup>3</sup> To this doctrine of Scherer the following objections have been raised by A. Kuhn: 1st, between  $\xi\text{-}\theta\eta\text{-}\varsigma$  and  $\xi\text{-}\theta\epsilon\text{-}o$ ,  $\acute{a}\text{-}dh\bar{a}\text{-}sa$  and  $a\text{-}dha\text{-}s\acute{a}$  there is a difference, which ought to be explained, in the quantity of the radical vowel; 2nd, the Greek final *o* does not represent a pure original final *a*; 3rd, the *sa* in the passive form ought to be accusative, and this is in Greek  $\sigma\epsilon$ , not \* $\sigma o$ ; 4th, how could the

*o* = orig. *a* have remained even after the accent had passed to another syllable? To these observations we must add three others: 1st, that it is very difficult to conceive why the last syllable in the form quoted, and in the others like it, should have lost the accent; 2nd, that Scherer's theory cannot be received without admitting in the medio-passive two formations quite different from each other; 3rd, that the middle meaning must in such case, according to the author, be derived from the passive, while we are accustomed to see the contrary phenomenon.



the final *i* which in the present active follows the *a* (e. g., in Proto-Aryan *dvik-sá-i*=Sanscr. *dvik-šé*) Scherer discerns, as Boller and F. Müller did before him, an <sup>71</sup> “indicative adjunct (deiktischen zusatz)” designed to bring into prominence the person, or rather a locative particle, besides which Scherer marks also *-am*: the *i* would be added to the present and future active, and to the present and perfect passive after the disappearance of the final *a* had already taken place.<sup>1</sup> Hence the final *ai* of the middle presents us the *a* only as a real personal suffix. With this *a* ought clearly to be identical the final *ā* of the “first principal conjugation” in the Aryan languages of the West, and in several forms of the Old Iranian: besides this *ā* we find, in various forms and languages of our stock, as suffixes of the 1st pers. singular *-i*, *-ma*, *-ān-*, *-am*. Now, as *-m* leads us back to *-ma*, so *-am* does to *-ama*, as a primitive form, and we have, according to Scherer, the series *-a*, *-ma*, *-ama*, that is, the pronoun *a* (which in Sanscrit is a demonstrative of nearness and forms the augment), its superlative *a-ma*, and, by aphaeresis, *ma*, whence *mi*.<sup>2</sup> A natural consequence of such premisses is the denial that the conjugation in *a* is derived from an older one in *-mi*, and the assertion that the difference between these two conjugations is original, in opposition to the teaching of the most important among recent philologists: an idea to which in fine Scherer had been already led by other considerations.<sup>3</sup>

<sup>1</sup> This hypothesis will be duly considered when we come to speak of the monograph of F. Müller, *Zur suffixlehre des indogermanischen verbums*.

<sup>2</sup> But why, asks Kuhn, is not the entire and more convenient form *ama*? Why is the idea *I* to be expressed at one time with a positive, at another with a superlative? And can we admit as certain the existence

of a suffix of the 1st pers. singular consisting of an *a*?

<sup>3</sup> See pp. 173 sqq. Against this assertion of Scherer it has been observed by Kuhn 1st, that a Greek *-ω* could not correspond to a primitive final *ā* (1st pers. sing.); 2ndly, that we do not find even in the whole of the Aryan languages of Europe the two conjugations distinct from one another, for the

Passing on from verbal to nominal flexion, we may  
 72 mention the eight forms for marking the plural which  
 Scherer thought he perceived in the primitive and funda-  
 mental Aryan. They are : 1st, reduplication ; 2nd, strength-  
 ening of the vowel of the derivative suffix ; 3rd, the addition  
 of *-sma* ; 4th, that of *-a* (*-ā*) ; 5th, of *-ī*, *-i* ; 6th, of *=sas* (from  
*-sva-s = sma-s*) ; 7th, of *-as* ; 8th, plurals without mark of  
 number, of which there survive examples in Vedic forms.<sup>1</sup>  
 These eight forms, observes Scherer, are almost all found  
 in declension with a different meaning, that is to say, as  
 cases.<sup>2</sup> And here the author subjects to analysis the case-  
 suffixes. In *-sma* (which he remarks in datives, ablatives,  
 instrumentals, locatives, now and then in the form *-sva*) he  
 discovers the superlative of the root *sa* indicating union :  
 the same idea he believes to be represented by the suffix  
*-bhi* of the dative, ablative, instrumental, and by the suffix  
*-a* forming instrumentals, and also locatives and conjunc-  
 tives. It is not and it cannot be our intention to follow the  
 author in the analysis of all the other elements of flexion  
 on which his labour is spent : in all probability the reader  
 would not follow us in such a labyrinth. But we cannot  
 refrain from noticing, for reasons which will speedily be  
 clear to everyone, how Scherer insists on throwing into  
 relief the relations which, according to him, exist between  
 case-suffixes and the plural number, and especially the  
 relations between this number and the locative, which are  
 73 akin to one another in that, according to the author, they  
 both denote an indeterminate quantity.<sup>3</sup> Nor does our

Lithu-Slavonic dialects, either by  
 preserving the *m*, or by retaining at  
 all events a remnant of it in the final  
*a*, remind us of the descent of the  
 conjugation in *-a* from that in *-mi*.

<sup>1</sup> As Kuhn aptly remarked, we  
 are here concerned for the most part  
 only with the nominative and ac-

cusative plural.

<sup>2</sup> This is due, observes the eminent  
 philologist so frequently quoted in  
 these notes, to the fact that such is  
 their original meaning.

<sup>3</sup> See p. 314. The locative, mark-  
 ing an indeterminate point, an unde-  
 fined part of an object, makes us

desire to acquaint students with the nature of Scherer's genius, permit us to pass over in silence the explanation offered by him of the suffix *-s* of the nominative singular masculine and feminine. "It must," such are his words, "in contrast with the dead neuter denote the living." There is in Sanscrit a masculine *ásu* [vital breath, life,] whence a locative *ásāu* [in life, that which is in life, alive]. Now *ásu*, so far as it denotes life, seems to be a noun of action from the root *as* [to dwell, exist, be]: therefore beside *ásāu* a locative *asa* is possible, of like meaning, formed by means of the suffix *-a* from the root *as*. From this *asa*, as far as the sounds are concerned, the *-s* of the nominative singular may easily have derived its origin: for from *asa*, by aphaeresis, comes *sa*, which, after fusion with a noun-stem, may have lost the final *a*. The meaning corresponds completely. But, asks Scherer, how is the determinative locative transformed into the nominative of a demonstrative? Beside the pronominal stem *sa*, he answers, there seems to have existed the form *as*: thence a nominative *asá*, *sa*, which probably, in the instinct of the language (*sprachgefühl*), became confounded with the determinative locative of the root *as*. In the locative *asá*, just as in the locative *ásāu*, there could only be discovered a pronoun.<sup>1</sup> —The case-suffixes, continues Scherer, after other considerations which we cannot repeat, are prepositions in a radical form. The preposition is precisely the element<sup>74</sup> which indicates the special kind of relations which most of

conceive of this as a whole in reference to such a part, thus giving rise to the idea of quantity without known limits.

<sup>1</sup> *Asāu*, remarks Kuhn, has not the sense attributed to it by Scherer: it denotes rather that which belongs to the other world. See also the other observations of

the distinguished critic in the review quoted of Scherer's hypothesis, of which we have given an exposition in order to throw more and more into relief the intellectual character of the illustrious German philologist, and to show, by a rare example, what power fancy has even in the science of language!

the cases have to express. From particles with a local sense are derived both pronouns and numerals: they are employed as case-suffixes. After setting forth in this way their origin, Scherer seeks them in quarters where we are not accustomed to perceive them, and imagines that he discovers the suffix of the locative in the final *-á* of the *nomina agentis*, in the composition-vowels *ā* and *i*, in the gerund in *-ja*, in the future participle passive, in several nominal stems, and also in the third person singular and plural. After having enumerated the suffixes of these, Scherer proposes to investigate the link which, in his opinion, should unite them together. "May it not be that *ant, ans, ra, ta*, are participial suffixes? May not *a, i, ra, ta, s (as)* be locative-case, or, which is the same, ablative-case suffixes? Must we not therefore declare as such, in the sense of our preceding inquiries, also *ant, ans*? What have we then in all of them but endings of locatives or combinations of them, or, in other words, local particles suffixed?"<sup>1</sup> In such way

<sup>1</sup> Kuhn justly observes that the reasoning of Scherer cannot carry with it conviction, since we must require special proofs for all and each of the forms of the third person which is under discussion. Besides, continues Kuhn, this person cannot be connected in several cases, for phonetic reasons, as a locative either with the present participle, or with the past participle (from which, moreover, it is separated also by the difference of meaning): cf. Sanscr. *dvēšti* with *divšant*, Gr. *τύπτει* with *τύπτουτ*, Lat. *amat* with *amant*-, etc. Lastly, as he has already explained the present participle in *ant* as a locative to which the suffix of the ablative (=locative) has been added, if we are willing to believe that from this present participle are derived the third persons with lo-

cative case-suffixes, we shall evidently have in them this case expressed no fewer than three times: hence we shall have to conclude that the original Aryans, in order to say *he knows*, adopted an expression equivalent to *know + in + in + in!*

The critical observations also of Steinthal (l.c) on Scherer's locative are worthy of note. How in the world, asks Steinthal, how in the world can we believe that more cases have been developed from the locative, while the farther we go back towards the sources, the more numerous, as a rule, do the forms appear, many of which have been lost in what, in the career of language also, may be called a struggle for life? How in the world shall we conceive so great an abundance of means to express a single idea? Nor,

does Scherer seek, and flatter himself that he discovers, unity in the inflexion of Aryan!

In the work of the learned German scholar there is, to <sup>75</sup> use the expression of Steinthal, as it were the programme of a scientific life; we admire in it marvellous scholarship, rare power of intellect, high aims: but it cannot be said that the author has attained his object. The reason of this has been, we think, well indicated by Kuhn, when he reproached Scherer with having too often abandoned the field of history in order to trace causes by a method more subjective than objective. He has not had recourse in equal measure to all the Aryan languages from which he might have derived important information: of Greek, observed Kuhn, he did not make as much use as he should have done in the examination of the most ancient forms, absorbed as he was in the consideration of the Indo-Iranic Aryan. Moreover, continues the illustrious philologist just mentioned, in the Vedic and in the Zend forms he did not always know how to distinguish the various periods of their development: hence, as he did not observe the different age of several among them, and could not conceive as contemporaneous forms so diverse, he referred them to various origins in certain cases in which they may with reason be considered to have sprung successively from a single original form, which we frequently see still surviving, beside the later forms which were developed from it. To these observations of the two illustrious German linguists we think it not unseasonable to add that Scherer does not seem to us to have given adequate proofs of all the transformations of sounds which he has affirmed.<sup>1</sup> To the <sup>76</sup> defects of this work already mentioned may be added that

the opinion of this critic, is the identity of sound and meaning, of which Scherer frequently tries to convince us, proved by valid arguments.

<sup>1</sup> E.g., what we read on p. 228 does not seem to us sufficient to demonstrate that even in the Proto-Aryan the original *m* could be changed to *n* between vowels.

of an exposition which certainly does not command the sympathy of readers, for whom it is impossible, without an effort of attention, to follow the author through all the meanderings of the investigation in which he wanders, without always sufficiently troubling himself about those who must follow him through the intricate paths. And, to conclude, it seems to us very deplorable that a work like this, which undoubtedly gives evidence of long, accurate, profound researches, of earnest and extensive studies, of a mental energy possessed by few, should, owing to the not unfrequent predominance of the imagination over cool reason, owing to the systematic tendencies with which it has been composed, have failed to result in that usefulness to science which it might have conferred, if the author had resolutely followed a method of investigation consistent with more strict criteria.

§ 15. From the fundamental principle of Bopp's morphology, according to which the suffixes are to be considered as words once possessing an independent existence, and afterwards united with roots and with stems to define their meaning yet more clearly;<sup>1</sup> from this principle, which has been accepted, in varying measure it is true, by almost all the philologists of the new historico-comparative school,<sup>2</sup> diverged, more perhaps than any one else, in their endeavour to advance the science of the Aryan languages by new methods, Rudolf Westphal and Alfred Ludwig. The first, of whom we are now to speak, already known and praised for his researches into German phonology and Greek rhythm and metre, drew upon himself afresh the attention

<sup>1</sup> See, with regard to the morphological investigations of Bopp, Bréal's introductions to his French translation of the *Vergleichende grammatik* of the great German. See also Benfey, *Geschichte der sprachwissenschaft und orientalis-*

*chen philologie in Deutschland*, München, 1869, pp. 470-515.

<sup>2</sup> Among these it may suffice to quote A. Schleicher and M. Müller, who by their writings contributed so much to the diffusion of Bopp's doctrine.

of students by the daring hypothesis which he conceived in order to explain the origin of the Indo-European speech-forms, and which he first propounded here and there in the *Philosophisch-historische grammatik der deutschen sprache*,<sup>1</sup> afterwards in the *Methodische grammatik der griechischen sprache*,<sup>2</sup> and in the *Vergleichende grammatik der indogermanischen sprachen*.<sup>3</sup> In our remarks on Westphal's system we shall frequently make use of the critical observations of Tobler<sup>4</sup> and of G. Curtius.<sup>5</sup> We hope further that, when regard is had to the novelty, the power of philological imagination (for so we may be allowed to term it), the extent of the investigations which we find in the works of Westphal above mentioned, and especially the profound difference which separates his doctrine on the origin of the Aryan forms from the theory of Bopp, our readers will not be inclined to blame us if we discuss the audacious but often attractive hypotheses of Westphal in a somewhat more minute manner than we have done, and intend to do, with respect to certain other investigations which, as far as concerns the scope of this book, seem to us of less importance.

To understand properly the grounds of Westphal's morphological system we consider the following preliminary remarks almost necessary.<sup>6</sup> In order to explain the genesis of the personal endings, in other words, of the

<sup>1</sup> Jena, 1869: see especially pp. 89-198.

<sup>2</sup> Jena, 1870. . . . see part 2nd (*Semasiologie und syntax*, etc., section 1st, v.-xl, 53-280).

<sup>3</sup> *Erster theil: Das indogermanische verbum nebst einer übersicht der einzelnen indogermanischen sprachen und ihrer lautverhältnisse*, Jena, 1873: see principally vii.-xxxix. 97-128, 134-8, 138-43, 231-44, 244-49, 581-2, 589-600, 600-8, 609-42,

643-53, and, in the Appendix, pp. 56-98.

<sup>4</sup> In the review of the *Phil.-hist. gramm. d. deutschen spr.* (*Zeitschrift für völkerpsychologie*, etc. vi. 482-8).

<sup>5</sup> *Das verbum der griechischen sprache seinem baue nach dargestellt*, i. Leipzig, 1873, pp. 19-34.

<sup>6</sup> Westphal, *Meth. gramm. d. gr. spr.*, part 2nd, Preface.

87 verbal flexion of the Aryan languages, Bopp used the same means which others had adopted to explain the origin of such endings in the Semitic dialects, in which the connexion had already been noticed between the suffixes of the first two persons of the verb and the personal pronouns, and the result was that these persons were even then regarded as compounded of the verbal stems with the pronouns in question. This opinion, chiefly through Bopp's instrumentality, not only prevailed in the doctrine of the terminations of the verb of Aryan stock, but spread to almost all the suffixes of this stock, although, to tell the truth, it is not all the most learned and distinguished inquirers who have cheerfully acquiesced in this hypothesis. And in fact it was not favoured either by the two brothers Schlegel or by Lassen. Three arguments were opposed to it by Westphal:—1st, the necessity of admitting, even in Proto-Aryan, phonetic corruptions which we have no right to attribute to it, among which deserve to be mentioned at all events the mutilations which we are constrained to suppose must have taken place in the forms of the middle if we wish to remain faithful to the doctrine generally followed; 2nd, the impossibility of explaining the meaning of certain endings, especially in nominal inflexion, if with the followers of Bopp, we recognise in them only pronominal stems; 3rd, if only Semitic, and not Aryan, availed itself of phonetic symbolism, the use of which in the former stock is manifest, evidently Aryan would be less rich than Semitic in means of expressing the determinations of ideas, and hence, in the great realm of languages, would occupy an inferior position, a conclusion which modern philology would reject. According to Westphal, therefore, the theory of phonetic symbolism should be introduced also into Indo-European  
79 philology,<sup>1</sup> especially since the most recent investigations

<sup>1</sup> Our own Ascoli, too, in the letter to A. Kuhn, above quoted, af-



into the Semitic inflexions have established the fact that the fuller, richer forms of the ancient Arabic are not at all to be considered as inventions of the national grammarians, but rather as an original inheritance of the Semitic languages, better preserved by the Arabic than by the cognate languages, and that such forms are explained only by attributing to them a symbolic meaning. Turning to account the results of such researches, Westphal attempted with rare courage a vast and profound innovation in Aryan morphology, which he set about reconstructing by the aid of criteria and a method derived from the latest works of the Semitists, and by showing how, starting from the same principles, and making use in various ways of substantially the same means, Semitic and Aryan have reached that stage of their formation to which belong the most ancient records of these two great linguistic stocks.

The first problem which Westphal puts forward is the following:—What are the momenta of linguistic development anterior to inflexion?<sup>1</sup> We cannot follow him in this inquiry without wandering too far from the subject of the present chapter, and we shall therefore content ourselves with noting the first results of his study. After remarking the necessity of indicating species and individuals, he observes that the most general idea of species is that of motion (mover, moved), and is the first that requires to be externally denoted. And the being conceived as in movement, man expresses by a motion proceeding from himself, by the motion of the vocal organs, that is, by the sound of his own voice. The first effect of this action was the vowel, *a* or *i* or *u* according to the varying aperture of the lips. The vocal sound was

firms that the principle of symbolic inflexion is more active in Semitic than in Aryan, but it is by no

means excluded from this last.

<sup>1</sup> *Vgl. gramm. d. indogerm. sprachen.* i. pp. 56-98 of the Appendix.

immediately preceded or followed for the most part by a motion of the lips, the tongue, the palate: hence the consonants. We have thus, to use the words of Tobler, "an easy system of original sounds, relatively few (the vowels *a*, *i*, *u*, the nasals *m* and *n*, the dental *t* which easily changes to *th* and *s*), and these sounds occupy physiologically a definite position in the combination of the organs of speech and with respect to each other, and consequently are called upon to assume corresponding psychological functions in the expression of the most elementary categories of spoken thought. The selection, which on each occasion takes place, of one of those sounds for a definite end depends, on the one hand, on the nearness or remoteness, physiologically, of that sound to the organ of speech (in other words, on the greater ease or difficulty of producing it);<sup>1</sup> on the other hand, on the nearness or remoteness, psychologically, of the category in question (that is to say, on its constituting a more or less urgent necessity for the thought which is developed in the language)." Hence, to the category which, psychologically, it is more necessary to denote, corresponds that sound of which, physiologically, the pronunciation is easier, and *vice versa*. Starting from these principles the author begins by explaining the origin of the root, distinguishing afterwards a primary root from a secondary root, and going on to nominal stems. Up to this point, observes Westphal, we have only the expression of existence in and for itself. But the thinking *ego* penetrates into the world of things conceived by the thought, and contrasts itself with such things as with an external reality. This reality is then defined according to its relations with the

<sup>1</sup> On this idea, it is well to note, with G. Curtius, the whole system of Westphal is founded. Now, if this author, as seems evident, in speaking of sounds which are more

or less near to the organs of speech, meant to express the more or less easy production of them, he ought to have given us a strict physiological demonstration of his assertions.

thinking *ego*. The forms of speech expressing these new definitions, so Westphal teaches us, are the verbal forms.

In the development of these he distinguishes three <sup>81</sup> *momenta*, the first of which arises from the formation of the personal endings. The verbal root to which belongs the function of representing motion with respect to identity with the thinking *ego*, becomes more concrete, and is therefore expanded also in its form, in the Aryan languages by the nasal (dental or labial), in the Semitic by *n*, *t*, *k*. On the other hand, the indication of motion in its primitive generality, in its absence of relations with the thinking *ego*, in other words, the third person, has no need to be accompanied by an expansion of the root; hence, in Semitic, we have the root devoid of a suffix; but, in the Aryan stock, in contrast to the positive definiteness of the first person, the third acquires, so to speak, a negative definiteness, and as the former was marked by *n*, so the latter is expressed by means of *t*, these being sounds which, in respect of the organs of speech, bear the same relation to each other as the two persons mentioned, that is, the relation of antithesis<sup>1</sup>. But the *non-ego*, to which the word is directed, is altogether different from the other of whom merely the word is spoken: to represent the former (the second person) the Aryans have added the vowel *u* to the suffix-*t* of the third,<sup>2</sup> while the Semites expanded by an *a* two of the phonetic elements which we find in the first (hence *-ta*, *-ka*). From the preceding remarks we see clearly

<sup>1</sup> Any one who pays attention to the dental nature of the one and the other, and to the relations between them which phonology reveals to us in numerous examples, will not, perhaps, feel himself very much inclined to accept this doctrine of Westphal.

<sup>2</sup> It is hardly necessary to observe that no account can be taken here of the phonetic corruptions of the suffixes noticed, and of those which we shall notice, but only of what, according to our author, were their original forms.

a very grave difference between the ordinary doctrine and the new one of Westphal, who, instead of considering, as almost all modern philologists do, these personal endings as formed of pronominal stems added to verbal stems, and afterwards becoming mere suffixes, thinks that such pronominal stems took their origin from the endings in question, or rather are these self-same endings separated from the verbs.<sup>1</sup> And while Bopp, with his adherents, considers the pronominal stems mentioned to be anterior, Westphal deems them to be posterior, to the verbal endings. Of the forms which, according to Bopp's theory, it would be necessary to assume as original, not a single one, according to our author, can be found in the records of the Aryan languages. In opposition to the hypothesis of the change of final *a* into *i*, *u*, the Indo-European dialects remain more faithful to the ancient form. We have no right to believe with Bopp, and his school, that certain endings are not at all original. In the oldest period of the languages of our stock the idea of the *ego* was naturally denoted only in the verb: nothing could as yet lead the speakers to express the *ego* as a subject. Nor even to describe reflected action did they use any pronoun to mark the object: the verb sufficed (e.g. *tuda-m* [I strike], *tuda-ma* [I strike myself, I strike for myself]). But how could such an expression as, e.g. *thou strikest me* or *for me*, be represented? For this purpose the active form (*tuda-s*) was employed and *me* or *for me* was expressed by the same phonetic element which, in the middle form, denoted the like ideas, in other words, by the syllable *ma*. Thus from the middle endings of the verb were developed independent pronominal stems: and that such was their origin is proved by the fact that only the *casus obliqui* of the three personal pronouns are identical with the verbal endings mentioned; it was not till later and from another

<sup>1</sup> *Meth. gramm. d. gr. spr.* part 2nd, pp. 179-207.

source that the *casus rectus* was derived. *Ma* does not denote 'ego,' as Bopp's hypothesis would require.<sup>1</sup>—The second momentum in verbal formation now under discussion is marked by the expression of the temporal relations of the motion thought of to the thinking *ego*. The motion, already defined with respect to the persons, is further defined as manifesting itself at the instant in which the *ego* thinks of it: this new definition, of present time, needs to be expressed by phonetic means. To this definite idea is opposed the indefinite idea of motion not thought of as present: the not-present is past or future; but this in so ancient a period of language was not yet marked as a particular time. The temporal relation is, first of all, expressed by the endings, according to Westphal: thus, e. g., while in the third person the preterit active exhibits *-t* and the middle *-ta* (in which the *a* after the *-t* marks the second definition which it is necessary to denote, that is, the relation of a thing to itself), the present active has the suffix *-ti* (in which the *i* denotes the temporal relation) and the middle has *-tai*. But also the negative definiteness of the not-present, or the preterit, requires a symbol to represent it, and finds it in the *a* of the

<sup>1</sup> G. Curtius does not think it probable that a stem is in itself incapable of being used in certain cases of its flexion, and hence he is of opinion that *ma-* could have denoted the subject also: it is a hypothesis, he admits, but not even Westphal himself can handle such arguments without hypothesis. And how can we possibly conceive the existence of a verb denoting, with the greatest accuracy, the three persons, unless the language possessed the pronouns of such persons in the *casus obliqui*? If the personal endings of the middle were separated

from the verbs and became pronouns, how are we explain the fact that in the plural the resemblance between the middle endings and the personal pronouns is so slight? The learned Greek scholar and philologist quotes, besides, the opinion of some distinguished students of the Semitic languages, to show that even in these the personal endings are, for the most part, considered to be of pronominal origin. In confirmation of this position he adduces also some examples derived from languages of another stock, and from Neo-Latin dialects.

argument. Further, to signify that an action, present or past, should not be conceived as durative or continuous, according to the phraseology of others, the Aryans made use of reduplication, which does not appear in the perfect only, though many have been accustomed to consider it as a characteristic of this tense. For this end another means also was employed, the expansion of the verbal stem <sup>81</sup> by the addition of suffixes consisting either of the sibilant *s* alone, or of this with some other sound: hence several verbal forms of which, for brevity's sake, we will notice two only, the aorist (with the suff. *-sa-*, *-iša-*, *-siša-*, and with the sense of completed action) and the future (with the suff. *-sja-*, *-išja-*, *-sišja-*) which are called sigmatic.<sup>1</sup> In Semitic, too, Westphal discovers the antithesis between not-present and present represented in various ways.—We may now proceed to the third momentum of verbal formation, the characteristic of which is the causal relation between the thought and the action thought of: the action is conceived as the effect of the thought; such conceit is expressed by the subjective moods (imperative, conjunctive, optative) to which is naturally opposed the objective (indicative). This new definition is denoted by the vowel *u*

<sup>1</sup> Westphal (*Meth. gr. d. gr. spr.*, part 2nd, pp. 250-80) rejects the doctrine ordinarily followed, which supposes these forms to have sprung from composition of verbal stems with certain tenses of the verbal root *as* [to be], because, in the flexion of this root, he does not find all the forms which he thinks necessary for explaining those above noticed, and because not all of those which are found have a meaning which seems to him adapted to that end. Nor does Ascoli (*Studj ariosemitici*, etc., p. 26, note 37) regard as certain, with respect to the aorist and the future in question, their

origin through composition. We may be allowed to note that Westphal, by his division of the tenses into present and not-present, by no means prepares us for a clear understanding of a fact which is certain and well-known and noticed by himself—the use of the present to denote the future—a use of which the Germanic and Slavonic languages, as well as Greek, furnish us with not a few examples. See my *Dissertazione storico-comparativa on the Formazione del futuro attivo negli idiomi italiani ed ellenici*, Torino, 1871, pp. 41-2.

(3rd person active in *-tu*, middle in *-tan*) in the imperative (as is inferred from Old Indian, Zend, Gothic) and by prefixing to all the endings an *-a-* in the conjunctive, an *-i-* in the optative. We pass over in silence the comparisons with Semitic, and the detailed remarks which are found in the passages cited of Westphal's works with regard to the expression of the plural number,<sup>1</sup> and of the dual in the verb (our readers, we think, need not very much bewail the omission), and we come at once to the second part of our<sup>85</sup> exposition, Westphal's doctrine on the genesis and significance of nominal flexion.<sup>2</sup>

To his own doctrine of the suffixes of declension our author prefixes some critical considerations with respect to the theory of Bopp and his followers. Although, observes Westphal, we might have thought that verbal flexion was formed from pronominal stems, we should not have a like right to think that nominal flexion too, which answers to entirely different ideas, was formed in a similar manner. Almost all the cases, if the conjecture of Bopp's school were true, would be confounded one with another in meaning, because the suffixes would have no other form than that of indicative pronouns. With such means how could our forefathers possibly have expressed the profound difference which separates, e. g., the nominative from the accusative? Nor is it of any use to suppose certain cases formed with prepositions, e. g., with *abhi*, in which we find already the suffix which is precisely what we have to explain. And it is useless to have recourse, as others have done, to stems of personal pronouns, for what possible relation can be

<sup>1</sup> It will be sufficient for our object to observe that the plural endings, according to Westphal, are only expanded forms of the corresponding singular endings: this expansion expresses in a symbolical manner that of the idea denoted by the singular.

In Semitic he discovers the sign of the plural in the lengthening of a vowel characteristic of the singular.

<sup>2</sup> *Meth. gr. d. gr. spr.*, part 2nd, pp. 60-183.

imagined between the idea of first person, for example, and that of the accusative case? We cannot, therefore, hope to understand the origin and the original sense of the suffixes of nominal flexion except by attributing to them also a symbolical meaning: in the investigation of it, Westphal thinks, we shall find the study of Semitic declension no slight help. The original form of this has been preserved for us by the Old Arabic. From it we learn how at first only two cases, the *rectus* and the *obliquus*, were conceived as clearly distinguished: to express the former the simple stem sufficed; the need of a case-sign was felt only for the latter and therefore the object was marked by the ending *-a*, that is, by the vowel which is most readily pronounced.<sup>1</sup> When, later on, the single original *casus obliquus* was divided into accusative and genitive, the former retained, as its phonetic exponent, the *-a*, the latter took the second vowel, *i*: but this was not so with all the nouns, several of which remained provided with only two cases. To distinguish it from the *casus obliquus* the *rectus* too received a suffix, the third vowel, *u*. To the forms mentioned was added afterwards generally the nasal *n*. The endings described belonged originally not only to the singular but even to the plural, which was marked by means of a vowel-lengthening in the root. The dual was distinguished from the plural by the addition of an *-ā* to the end of the stem. Later on, for reasons not clearly known, there was also a plural expressed by singular endings lengthened (*-ū* for the nominative, *-ī* for the accusative and the genitive). Having thus stated his theory of the origin of the Semitic declension, Westphal proceeds to examine the Indo-

<sup>1</sup> Curtius meets this assertion of Westphal's with a grave objection, observing that the pronunciation of the *a* costs a greater effort than that of the *i* and the *u*, and

this is the reason why, as is well known, the *a* is seen so frequently to be weakened to the two other original vowels.



European declension, starting from the accusative and the nominative, and observing first of all that, while in Semitic we have met with suffixes consisting of vowels, in Aryan we find consonants as endings of nominal flexion, because Semitic nominal stems end in a consonant, the original Aryan in a vowel.<sup>1</sup> In Semitic we find the *a* of the *casus obliquus* over against the *u* of the *casus rectus*: in Aryan, to the indefinite nasal which marks the accusative, is opposed the sibilant, as a symbol of the nominative masculine and feminine; between these sounds, physiologically considered, there is, says Westphal, the same<sup>87</sup> relation of antithesis which exists between the case of the object and that of the subject.<sup>2</sup> The sibilant in question appears to have come from a dental mute, *t*. The point of departure of the motion, of the action, in other words the nominative subject in active predications, was therefore originally expressed by a *-t*, which was afterwards weakened to *s*: the point of departure of the motion, of the action in passive predications, etc., in other words, the ablative, was denoted by a *-t* (*-d*) strengthened by a prefixed *-a* (*-at*), or by changing the final stem-vowel into a diphthong. The ablative, therefore, according to him is in its origin a strengthened nominative which has succeeded in preserving for a longer time the old dental mute.<sup>3</sup> From the original fundamental ending *-at* was derived also, with a slight modification of the consonant, the suffix of the genitive *-as*: in place of the *a* we may have, as in the ablative, the final vowel of the stem changed into a diphthong. The close affinity of the genitive with the ablative and the nominative—cases expressing the point of

<sup>1</sup> We need hardly point out that there are remarkable exceptions; see the first part of the *Vergleichendes wörterbuch der indogermanischen sprachen* of Fick.

<sup>2</sup> This assertion would evidently

need a strict physiological demonstration.

<sup>3</sup> Westphal thinks the final *-d* of certain so-called nominatives and accusatives neuter is a remnant of this.

departure of the motion, of the action—is easily understood when we reflect that the genitive denotes an idea on which depends that represented by the subject. The plural number is marked in the languages of our stock by means of the expansion of the singular endings by the addition of a sound, which in the accusative plural is *-s* as distinguished from the nasal of the singular suffix (hence *-ns* and by abbreviation *-s*); in the genitive plural it is *-n* in antithesis to the *-s* of the singular ending (hence, with a conjunctive vowel, *-sān*, *-sām*, and, in a more simple form, *ān*, *ām*);<sup>1</sup> in the nominative plural we have again *-s* (and, with the copulative vowel *-a*, *-sas*, *-as*) to distinguish it from the genitive. Besides these cases Aryan formed also the instrumental, the locative and the dative by means of vowels, in contrast with the preceding cases formed with consonantal suffixes. Between the new cases alluded to there is no antithesis, as between accusative and nominative, in the ideas denoted by them, and hence also there is none in their forms. The oldest Aryan represented the instrumental by the vowel *-a*, the locative (of rest and of motion) by *-i*, the dative by *-ai* (a strengthened form of *-i*, the suffix of the locative, the connexion of which with the dative is perceived, when it indicates the place to which a motion is directed or extended). In front of the *-a* of the instrumental, and the *-i* of the locative were developed several consonants, the original function of which seems to Westphal to have been to separate these vowels of suffixes from the final vowels of stems (especially those in *a*): among these separative consonants (“trennungs-consonanten”) we find all the mutes, and in the number of

<sup>1</sup> À propos of this conjunctive vowel we deem it right to notice that the assumption, or rather the necessity for the assumption, here and there of sounds of this kind, the existence of which appears to be

rarer and more doubtful the farther analysis advances, is certainly not, in our eyes, an argument in favour of Westphal's morphological system. And how is the lengthening of the *ā* explained?

these the guttural media and the labial media; the one which is found oftenest is the labial aspirate (*bh*). Thus Westphal explains the origin of the suffixes *-ta*, *-ka*, *-pa*, *-dā*, *-thā*, *dhā* and of the suffixes, *-bhi*, *-dhi*, *-ghi*, *-ti*, *-di*, *-pi*:<sup>1</sup> but he himself admits that the origin of all these endings is not yet sufficiently clear. The *-i* in its simplest form, and in the expanded form *bhi* gave origin, sometimes without, sometimes with a vocalic adjunct, to plural and dual suffixes: we find also the suffix *-ai* in these two numbers. In the suffixes of the locative plural (*-sa*, *-si*, *su*) the mark of the plural, *-s*, was prefixed to the ending of<sup>89</sup> the singular.<sup>2</sup> The final *-a* in the accusative and nominative plural neuter is not a mark of case at all, but really of number, according to Westphal.

And now, intelligent and kind reader, be good enough to cast a glance with us at the road which we have traversed together with Westphal, in order to see whether he has conducted us to the goal or at least near to it, or whether, on the contrary, he has lost his way in intricate paths without hope of finding it again. The latter, as has already been seen from various observations, is the opinion of G. Curtius.<sup>3</sup>

<sup>1</sup> Other expansions of *-a* and *-i* (*-ha*, *-hā*, *mi*) and of the suffixes of the genitive and ablative singular are noted by Westphal in the *Vgl. gramm.*, etc., i. 100-1. With respect to such hypotheses G. Curtius observes that a recourse to them involves a relapse to the old theory of grammar, and that frequently they are not consistent with the spirit of the languages. Did not Greek, for example, possibly tolerate in many cases the hiatus? And can it be believed that it has in the case of which we speak added consonants which it frequently rejected?

<sup>2</sup> Besides the strangeness of such transposition it may be noted that

the suffix of the locative singular, even according to Westphal, is *-i*: hence the suffixes *-sa* and *-su* would remain unexplained. For the rest, we think, Schleiher was quite right in giving us as the Proto-Aryan form of the locative plural *-sua* (cf. O. Bactr. *-šva*, *-šu*, *-hva*, *-hu*, O. Pers. *-suvā*, *-uvā*, Gr. *-σσι* from *\*-σFi*): see *Compendium*, etc., pp. 573. sqq.

<sup>3</sup> Not very different is the judgment passed on Westphal's morphological system, as described in the *Phil. hist. gramm. d. deutschen spr.*, which we read in the *Revue critique d'histoire et de littérature*, 5th year, 2nd sem., pp. 218-24. In

Tobler, on the other hand, considers that Westphal's theory holds good as a hypothesis at all events as much as Bopp's doctrine, nay, that the former is simpler than the latter and hence has a greater appearance of truth: 90 that the morphological system of Westphal, as a whole, is worthy of approbation, and is undoubtedly the only one which can explain the phonetic symbolism prevalent in the formation of roots. The critic admits however that not even by means of Westphal's principles and method will every problem be solved, and he does not disguise his doubts with respect to the origin of the pronouns from the verbal endings.—Between these discordant opinions our own holds a, so to speak, intermediate position. That Westphal by his hypothesis has cleared up all the phenomena of the Aryan languages no one certainly will wish to affirm. We do not even know whether any one would be disposed to assert that, by means of the hypothesis stated, it is possible for the most cautious, the most patient investigator to discover the nature and causes of all the linguistic facts under discussion. We have seen, moreover, how the fundamental positions of Westphal's doctrine lack the basis, on which alone they could rest with perfect

this judgment on the system alluded to we note the following words: "Le talent remarquable avec lequel il l'a soutenu, la lucidité avec laquelle il l'expose, la logique avec laquelle il l'enchaîne ne parviendront pas à le faire prévaloir en face de conclusions si solidement assises de la science contemporaine, et le grand malheur de l'auteur, comme le grand défaut de son livre, c'est de ne connaître que d'une manière fort insuffisante les travaux qui depuis dix ans ont donné à l'hypothèse opposée à la sienne une vraisemblance voisine de la certitude." (The French critic may pardon our doubts as to the in-

sufficiency of Westphal's philological scholarship and the solidity, especially in certain cases, of the doctrine opposed to his own). ". . . il nous est impossible de nous représenter comment l'esprit peut donner à un son, qu' il n'a attaché à l'image d'aucun objet précis, une fonction purement déterminative, c'est à dire purement abstraite. Mais il n'en faut pas moins reconnaître l'intérêt et la valeur de la tentative de M. Westphal; il y a peu livres qui suggèrent sur les grands problèmes linguistiques plus de pensées que le sien. . . ."

security, a rigorous demonstration drawn from phonetic physiology, and how, further, they are not always favoured even by the history of the Aryan dialects. And we are of opinion, nevertheless, that, to say nothing of the merits of a rare independence of thought and power of synthesis and of a methodic and lucid exposition of his daring conceptions, Westphal deserves praises for having, by his criticism of Bopp's system, reminded many who perhaps greatly needed it, how doubtful is still the value of certain hypotheses which not unfrequently through insufficient study or hastiness or slowness of genius are thoughtlessly vaunted as theorems. And he seems to us worthy of commendation also in that, while opposing to Bopp's principle of agglutination and fusion that of phonetic symbolism (which even Ascoli thought could not be excluded altogether from Indo-European inflexion), he gave or rather restored to the science of our languages another means of investigation, the inefficacy of which,<sup>91</sup> whatever use or abuse he may have made of it, is by no means thereby proved, because not only on the intrinsic value of an instrument, but also and still more frequently on the manner in which it is employed depends the advantage which others derive from it. The hypothesis of Westphal in its most fundamental conception may perhaps, like that of Bopp, boast of advantages of no small importance, but within more narrow limits and in another way than its author believed. Nor can we pass over the fact that it tends to place morphology in close relations with the physiological study of the formation of sounds and roots, and brings the historico-comparative investigation of the Aryan languages into proximity with that of the Semitic dialects. It is for these reasons also that we have spoken more at length than others perhaps might think necessary on the morphological system of Westphal, from which we must now pass on to that of Alfred Ludwig.

§ 16. The works are three in number in which this learned and intelligent prosecutor of Vedic studies<sup>1</sup> set forth his own ideas on the origin and the development of the forms in the Aryan languages:<sup>2</sup> ideas so opposed to the doctrines generally professed and in part at least so peculiar to this investigator and put forth by him with an arrangement so different from that to which most of the books on philology have accustomed us, that we feel it to be no easy task on our part to describe in a precise and clear manner at any rate the most important of them.

<sup>92</sup> For limiting our discourse to a few remarks on the fundamental conceptions alone of Ludwig's morphological system we have several reasons, among which it may suffice to note only this, that, if we were disposed to overstep such boundary lines, we should be compelled to guide our readers through too long and intricate paths: without being able to promise them a reward commensurate with the hard toil. To avoid the risk of altering the doctrine of Ludwig, in describing it compendiously, we shall avail ourselves, as far as possible, of the exact phrases used by him, quoting the books and the pages from which we shall extract them. Our exposition will be accompanied

<sup>1</sup> The first volume, not long since published at Prague, of a translation by him and a commentary of the Rigveda (*Der Rigveda oder die heiligen hymnen der Brâhmana zum ersten male vollständig ins deutsche übersetzt mit commentar und einleitung*) is discussed very favourably by A. De Gubernatis in the 1st number of the *Bollettino italiano degli studi orientali* which is under his direction, and which we heartily recommend to our readers, especially those of Italy, as a work which does honour to our studies, and deserves to be praised and forwarded.

<sup>2</sup> *Die entstehung der a-declina-*

*tion und die zurückführung ihrer elemente auf das ihr zu grunde liegende pronomem zugleich mit der darstellung des verhältnisses der anomena zu den derivierten verbalformen: ein beitrag zur geschichte der wortbildung im indogermanischen (Sitzungsberichte d. K. Acad. d. wissenschaften, phil.-hist. cl., lv. 131-94). Der infinitiv im veda mit einer systematik der litauischen und slavischen verbs, Prag, 1871.—Agglutination oder adaptation? eine sprachwissenschaftliche streitfrage mit nachträgen zu des verfassers 'Infinitiv im veda,' Prag, 1873.*

by notes, in which we shall point to the most important critical observations on the theories of Ludwig made by distinguished students of philology, among whom we may mention Delbrück,<sup>1</sup> Bergaigne,<sup>2</sup> Jolly.<sup>3</sup>

We must see in the first place what is the opinion which

<sup>1</sup> *Zeitschrift f. vgl. sprachforsch.*, xx. 212-40: this review of the work *Der infinitiv im veda* etc. was met by Ludwig with a vigorous reply in the pamphlet *Agglutination oder adaptation?* in which he undertook to defend and develop certain opinions set forth in the preceding monograph.

<sup>2</sup> *Revue critique d'histoire et de littérature*, 7th year, 1st semester pp. 385-93.

<sup>3</sup> *Zeitschr. f. völkerpsychologie*, etc., viii. 62-73. We regret that we have been absolutely unable here in Turin to read the remarks made by Benfey on the work *D. inf. im v.* in the *North British Review* (Jan.—March, 1871), which were such as to deserve the thanks of Ludwig himself.

[The writer (Benfey's name is not appended) of the article in the *North Brit. Rev.*, after giving extracts to shew the nature of Ludwig's theory, proceeds to offer a brief criticism, and concludes with quoting a few passages from the Veda in which he thinks Ludwig's interpretation is wrong. On the theory itself of the origin of Indo-Germanic inflection he remarks that it is "almost entirely based on the deviations from ordinary Sanscrit, relating to inflective forms and grammatical relations which are found in the traditional texts of the Veda." "The justification of de-

ductions from the traditional Vedic texts manifestly depends on a correct estimate of their history, their origin, &c." But these texts, it is clear, "must have been exposed to all kinds of corruption." The circumstances attending the tradition of the texts "lead to explanations of the abnormal phenomena . . . widely different from those of Professor Ludwig. Many of these phenomena may prove to be hyeforms of phonetic origin. . . . As to the date assigned by Ludwig to the completion of the grammar (see below, p. 111) the reviewer observes "Surely if the grammar, which by the hypothesis was completed only about 2000 B.C., was still, 500 years later, among the Indians, in such an unsettled condition that a multitude of forms could express all relations indefinitely, then the other tribes could not possibly have attained to a grammatical form in such harmonious conformity with Sanscrit and Zend." Though Ludwig "endeavours to point out analogous phenomena in other languages. . . scarcely any of his hypothesis can be admitted by careful critics." But "in that part of the work which deals exclusively with Vedic forms without regard to the theory of inflection . . . the preponderance of good is so great that the work takes a very high place in the field of Vedic research."—*Tr.*]

Ludwig holds of modern historical and comparative philology; the reasons will thus appear which separate him from the linguistic school, the doctrines of which on the origin and the changes of Indo-European inflexion were developed and set forth with fidelity, vigour and pre-eminent coherence of principles and methods by A. Schleicher. Recent investigators have not, so Ludwig thinks, made good and sufficient use of the historical method. The importance of the Vedic language with reference to the study of the Aryan dialects has been theoretically recognised, but “in practice, as we must admit, the base of the philological comparison of to-day is Greek;<sup>1</sup> only it has been rendered intelligible by means of Sanscrit. As long as the common phonetic laws suffice to show in the Greek form a modified Sanscrit form, Sanscrit is welcome, and then the Sanscrit trumpet is allowed to speak: when Sanscrit is irreconcilable with Greek, the former is deprived of all power of harm by explaining it, that is to say, by maintaining à priori a doctrine with regard to it, instead of allowing ourselves to be taught by Sanscrit. Nay, it would be very easy, starting from principles of logic, to demonstrate that the method which now prevails in the science of language is false and to be rejected. It consists in nothing else than changing comparison into a historical process. From a series of forms mutually connected one is arbitrarily taken,

<sup>1</sup> We gladly take this opportunity of observing that, if we are not deceived, one of the most serious obstacles in the way of free and truly scientific philological investigation is the influence still exercised upon our minds by the ideas and even the technical terms of the Greek and Latin grammarians: ideas often erroneous, terms not unfrequently inexact (especially in Latin), to which we have been only too much accus-

tomed, and to which even at present the young are accustomed by a method of teaching often incompatible with contemporary science.—As far as Vedic grammar is concerned much is with reason expected from the studies of Benfey. Meanwhile, we are very glad to notice Delbrück's book *Das altindische verbum aus den hymnen des Rigveda seinem baue nach dargestellt*, Halle, 1874.



the originality of which neither is nor can be proved, this is compared with the rest, and the expression of the relative difference is insensibly transformed into a historical process."<sup>1</sup> Nor is it of any use to assume, as the school of Bopp is in the habit of doing, stems which did not in reality exist or the existence of which cannot be proved: mere hypotheses, results of an à priori study which cannot form a solid base for a truly scientific knowledge.<sup>2</sup> Not<sup>94</sup> only in its progress, but from the very starting point, must philological investigation be severely historical. "The scientific treatment of the languages of the Aryans must be founded, in the truest sense of the word, on the Veda, as far as it extends."<sup>3</sup> It must "seek for stems the reality of which can be proved, the meaning of which is clearly revealed by the syntactical relation in which they are presented to us."<sup>4</sup> A stem is, according to Ludwig, in the historical process of language, every word-form which is considered as separated from the sentence, or as not exercising a function in it nor placed in strict relation with the others of which the sentence is made up: in the contrary case we have a word-form declined or conjugated ("flectiert"). Hence it is clear that historical grammar (with practical grammar we have not to concern ourselves in this work) ought to perceive in inflexion a syntactical fact, and what and how extensive

<sup>1</sup> *D. inf. im v.*, p. 83, and on p. 87 he writes: ". . . we cannot help considering almost as harmful, as would be a positive neglect, the manner in which not unfrequently at the present time use is made of the Veda." See *Agglutination*, etc., pp. 39-40 (§ 20).

<sup>2</sup> *D. inf. im v.*, p. 70.

<sup>3</sup> *D. inf. im v.*, p. 87. Here we should not omit to mention that Ludwig (*Agglutination*, etc., p. 82

sqq.) professes with respect to the accuracy of the Vedic text a faith which is not shared by all Vedic scholars, among whom Delbrück declared his doubts in his review of Ludwig's book, *D. inf. im v.* It is a problem of Vedic scholarship with which neither the nature of our special studies, nor that of the present book allows us to concern ourselves.

<sup>4</sup> *D. inf. im v.*, p. 70.

are the relations which unite syntax with morphology in Ludwig's system.<sup>1</sup>

Let us now proceed to examine carefully the characteristics which the author attributes to his stems, so different as they are from those of ordinary modern philology. In the first place, he teaches, there is neither stem nor root which originally ended in a consonant; the final sound of every stem is a vowel (generally *i*): and <sup>95</sup> this position is considered by Ludwig as so fundamental, that, until his opponents demonstrate its falsity, his doctrines will always remain unshaken.<sup>2</sup> Secondly, he denies that the suffixes, in which we have been accustomed to perceive the signs of inflexion, had originally the function of denoting those definitions of ideas which or-

<sup>1</sup> *Agglutination*, etc., pp. 107 and 111; see also p. 29.

<sup>2</sup> *Die entstehung der a-declination*, etc.: see especially § 14.—*Agglutination*, etc., pp. 113-5. On pp. 117-8 of this book he considers the *-i* of the locative not as a suffix, but as the final element of the stem: nor does he explain otherwise the *-i* of the potential (*D. inf. im v.* p. 118) and the verbal termination *-i* (pp. 138-40). À propos of the many roots and stems which are generally thought to end in a consonant, and to which Ludwig assigns the vowel *i* as a final sound, let us note the observation of Bergaigne, according to whom the new hypothesis frees us, it is true, from the difficulty caused by the copulative vowel in several forms, but forces us to admit the disappearance of *i* in a much greater number of forms. Ludwig, continues the critic quoted, always recognises the primitive form in that which is richest in phonetic elements in order not to

be obliged to suppose in the others anything but phonetic decay: but in that case it is necessary to have recourse to very grave phonetic changes, the possibility of which, as they are supposed to have taken place in a pre-historic age, we cannot directly prove, and which, as they are found, according to the hypothesis in question, in profoundly different ways even in one and the same language, and with respect to the same primitive sound, seem à priori almost impossible.—After this it will perhaps appear to the reader a little strange that Ludwig proves himself, in his criticisms on modern linguistic science, so severe in the matter of phonetic laws (*Agglutination*, etc., p. 30, etc.). Let Indian scholars consider whether it is possible to regard as proved, e.g., the derivation of the *-us* of the 3rd plur. act. “from *-arus* = *-aru-s*,” whether phonology can accept, as a proven thesis, this very important disappearance of sounds (*D. inf. im v.*, p. 126 sqq.).

dinary philology believes to have been represented by them from the very beginnings of their use in the Aryan languages. According to Ludwig they were by no means at first furnished with such capacity and their changes did not take place in a period of independent existence, as others think and assert without being able to prove, but in reality in the words to which they were joined and in them alone.<sup>1</sup> Among the arguments which the German philologist adduces against the doctrine of the modern school of philology with regard to the original significance of the suffixes and to their relations with the stems, a doctrine as he calls it of "agglutination," we will cite first of all the following dilemma: "either the Indo-European languages are agglu-<sup>96</sup>tinating, and in this case the supposed difference between these as inflecting and the agglutinating languages is false; or they are not agglutinating, and therefore the suffixes of word-formation and of inflexion cannot be agglutinate. But as these suffixes appear nevertheless attached to the root, and all recognise the fact, so it follows with absolute necessity that they were not united to the root and the stem in that sense which we see they carry with them."<sup>2</sup>

<sup>1</sup> *Agglutination, etc.*, p. 27.

<sup>2</sup> *Agglutination, etc.*, pp. 24-5.

In his critical remarks, above quoted, on this book, Jolly observes that Ludwig was wrong in making the difference between agglutination and inflexion to consist in an eminently fundamental characteristic, while most philologists consider the agglutinative form as an intermediate stage between the isolating and the inflexional. We shall have to speak later on this very important subject: meanwhile we think it useful to remind the reader of Steinthal's profoundly wise observation that, if indeed the Indo-European mother-language was undoubtedly mono-

syllabic, it certainly was not so like the Chinese; if it was agglutinating in a very mitigated form, it was not so like the Tatar, that, in fine, if Indo-European can, superficially considered, appear in those two first periods of its proper existence, like the languages mentioned, there was, nevertheless, always in it another germ, and of higher capacity, (*Zeitschrift f. völkpsychologie, etc.* ii. 238-9). See also Pezzi's *Introduction, etc.*, pp. 120-6; Sayce, *The principles of comparative philology*, pp. 127-64; Müller, F., *Grundriss der sprachwissenschaft*, vol. i. § 1. pp. 139-40.

“It is an opinion,” so writes Ludwig, “the truth of which cannot be doubted, that all the material portion of the forms at one time did not exist, that it grew during a period of time probably immense, that the state of the forms as compared with the grammar of the entirely developed language was imperfect. Nevertheless men spoke and the speakers were undoubtedly understood. To what must the grammatical ideas have been attached? Naturally to what we now call stems. The stems, the groundwork of the subsequent grammatical forms, are by no means mere abstractions, they appeared in syntactical usage. . . . . A stem-form, which cannot be demonstrated to have been actually employed, is a chimera, an absurdity which has done considerable  
 97 harm to linguistic study and quite as much to special researches on the subject of syntax.”<sup>1</sup> And here the author proceeds to quote a series of passages from the Veda, in which he discerns stems employed in the function of cases without the usual endings (genitives plural without *-ām* etc.<sup>2</sup>) and cases used one in place of another (e.g., the locative instead of the dative<sup>3</sup>) and the numbers not denoted by suffixes exclusively peculiar to each of them (for instance the *-su* of the locative, the *-bhis* of the instrumental were not employed in the most ancient period as plurals so exclusively as they were later, nor have the oldest genitives plural without *-ām* a mark of number):<sup>4</sup> so that, according to Ludwig, “it is impossible to speak of the original meaning of a case; we can only talk of different uses of a stem,” to which at a later time were added new distinctions.<sup>5</sup> He adduces other examples to establish the point that no particular relation either of person or number was originally represented by the middle endings *-ē*, *-sē*, *-tē*, and hence not even by the active *-mi*, *-si*, *-ti*, from which the middle

<sup>1</sup> *D. inf. in v.*, p. 4.

<sup>4</sup> *Ibid.*, pp. 20, 24-5.

<sup>2</sup> *Ibid.*, pp. 5-8.

<sup>5</sup> *Ibid.*, p. 20.

<sup>3</sup> *Ibid.*, pp. 11-13.

endings by common consent must be thought to have sprung.<sup>1</sup> Nor is the opinion different which he expresses with regard to the moods. "It would certainly be superfluous to make even a single remark on the original confusion of the conjunctive with the optative in syntactical usage: but it is easy to see that (unfortunately!) not even the indicative, the conjunctive and the imperative are separated from each other by any solid barrier. Unfortunately, we repeat, for, as is known (and was known—a sufficient proof of it is Sāyana, etc.), it is often impossible to discover whether a verbal form in the Veda is to be understood in an indicative<sup>98</sup> or in a conjunctivo-imperative sense. . . . . No mood has a stem-sign belonging to it exclusively. It was only by means of the prevalence, which took place gradually, of the forms with *e-*, *ā-*, *a-* that the potential, the conjunctive and the indicative became distinguished one from the other. The imperative, though undoubtedly it approaches in meaning more nearly to the conjunctive than to the indicative, has not, as all know, a stem-sign of any sort whatever."<sup>2</sup> Ac-

<sup>1</sup> *Ibid.*, pp. 71-82, 145-6.

<sup>2</sup> *Ibid.*, pp. 111-3. To state summarily the observations of that learned philologist and Vedic scholar Delbrück, on the preceding statements and quotations of examples, we will say that the critic whom we have just commended rejects some of them, because he perceives in them errors of the Vedic text; as to others he cannot feel satisfied, inasmuch as he does not approve the sense attributed to them by Ludwig, or considers it uncertain; lastly, in some forms, which the latter believes to be primitive, Delbrück thinks that disappearance of final sounds has taken place. Bergaigne by no means denies that some stems without declensional

suffixes have been used, not only in composition but also apart from it, with the force of cases: he does not, however, think that we can draw from this the conclusion that the inflexional suffixes had not originally the function of denoting those relations which at a later period they certainly represented, but only that the language, in a very ancient period, of which he still perceives traces in the compounds, expressed the relations existing between the ideas only by the varying position of the words. The French critic shows himself more inclined to admit the confusion, or at least the imperfect primitive distinction, of the nominal and verbal forms, although he considers it possible that, from the very beginnings

cordingly he is constantly in error who seeks in the suffixes the meaning of the forms. A cause of such error was the tendency to place the sound in close relation with the thing signified.<sup>1</sup> The principle then of agglutination, Ludwig affirms, which has been made use of by modern  
 99 philologists, is a principle neither demonstrated nor demonstrable, contrary to the nature of the Aryan dialects, contrary to the historical method.<sup>2</sup> The conclusion therefore is that the suffix had never originally the power of modifying the sense of the stem, but on the contrary derived its meaning from the stem itself, after having lost its own which was 'demonstrative,'<sup>3</sup> corresponding to a "want, which, intellectually subordinate, but practically very active, and one which ever and again makes its own claims good, produced the material, which, transformed by a higher intellectual want, was rendered obedient to this last,"<sup>4</sup> in other words to the expression of the relations which we now see represented by inflexion. That the reader may perceive the manner in which, according to Ludwig, it came about that the suffix lost its own original simply demonstrative force and acquired that meaning of case, person, number etc., with which we see it provided, we shall here quote some passages found in the two works of the author which we have most frequently cited. "It took place owing to a certain change of equilibrium, since

of their use, the suffixes had each, so to speak, in germ the force with which we see them afterwards provided. Such a question of language is evidently connected, at least in great part, with Vedic philology and scholarship: to solve it definitely, if that will ever be possible, we need further new studies of the most ancient surviving records of the Indo-European linguistic stock.

<sup>1</sup> *D. inf. im v.*, p. 3. Similarly in his book *Der ursprung der sprache*

(pp. 91-1) Geiger had taught that "any sound may denote any idea, any idea may be denoted by any sound" (see also pp. 47-8, 51-2, of the larger work of Geiger, entitled *Ursprung und entwicklung der menschlichen sprache und vernunft*, Stuttgart, 1868-73, and our *Introduction*, etc., pp. 201-3).

<sup>2</sup> *D. inf. im v.*, pp. 1-2.

<sup>3</sup> *Ibid.*, p. 4. *Agglutination*, etc. pp. 26-7.

<sup>4</sup> *D. inf. im v.*, p. 85.

naturally it was not possible to conceive the word with the suffix as an indivisible whole, nor the meaning as consisting without distinction in the entire combination of the sounds but it was also impossible to conceive as absolutely void of sense that which nevertheless was felt necessarily to be the subordinate element. Thus was effected in a spontaneous way, in which the reflexion played naturally only an entirely subordinate part, a new division of meaning, in which the root was subjected to a certain process of abstraction which exercised an immense influence upon the development of the language."<sup>1</sup> The process of word-formation by means of the demonstrative suffixes noticed above "gradually came to a stop and side by side with it there grew up a new tendency to take advantage of the forms which had diminished in value. And though at first the special indication of the 'agens,' the 'actio,' the 'actum' was neglected and men were satisfied with the 'demonstration' then evidently employed with great frequency, language afterwards proceeded step by step, it could hardly dispose of favourable material, to express such distinction, adapted as it was for increasing extraordinarily the intelligibility of speech, in which task nevertheless it laboured without any coherence. Having arrived by means of such differentiation at a certain stage it went on to a second differentiation, in marking number and case-relation, but for this purpose, too, were used only the elements which were already at hand, and we must not dream of the creation of a grammar."<sup>2</sup> Elsewhere Ludwig regards as causes of the phenomenon in question the forgetfulness of the original meaning of the forms and the want which the speakers must have felt of explaining to themselves the variety of them, or of understanding them. "For," he writes, "it was undoubtedly by the meanings which were

<sup>1</sup> *Ibid.*, pp. 4-5.

<sup>2</sup> *Ibid.*, pp. 15-16.

attributed to the forms that they were believed to be understood."<sup>1</sup> "It is evident that the analysis of the thought and of the object of thought precedes the formal distinction, but this was called forth and maintained by the already existing variety of the forms."<sup>2</sup> And "the repeated transformation which the mind effects of the phonetic material, a transformation which closely connects the elements of word-formation and of inflexion with the root and the stem and causes them as they grow to be fused with these, which  
 101 constantly gives a new intellectual stamp to the old sounds, this transformation is what constitutes the real difference between agglutination and inflexion."<sup>3</sup> Variety of forms obtained by means of suffixes<sup>4</sup> which lost their original demonstrative significance, differentiation and adaptation of these forms to the various definitions the need of expressing which made itself more and more felt, are the two factors of inflexion according to Ludwig.<sup>5</sup> Hence it is clearly seen, 1st, why Ludwig has called his doctrine "theory of adaptation (adaptationstheorie)," rejecting the denomination "stem-theory (stammtheorie)" proposed by Delbrück;<sup>6</sup>

<sup>1</sup> *Ibid.*, p. 24. This idea of the forgetfulness of the original meaning plays a large part also in the system of interpretation of the myths proposed by M. Müller.

<sup>2</sup> *Agglutination*, etc., p. 112.

<sup>3</sup> *Ibid.*, p. 28.

<sup>4</sup> We regret that we are unable, without increasing the already excessive length of this paragraph, to add to these remarks on the force of the suffixes some idea concerning the primitive form and the metamorphoses of them according to Ludwig, pointing out, e.g., to our readers, what use he makes of the suffix *-ati*, which has a prominent position in his system, and to what

phonetic changes he has recourse. See *Die entstehung der a-declination*, etc. (especially the first six paragraphs) and *D. inf. im v.*, passim.

<sup>5</sup> It should be noted how in the doctrine of 'differentiation' ('*differenzierung*') Ludwig agrees with Scherer and Geiger: the first of whom reduces the entire intellectual life of language to two processes which are constantly renewed, metaphor ("übertragung") and differentiation (*Z. gesch. d. deutsch. spr.*, p. x.); the second regards as the two principles which govern the development of the nature and the intellect differentiation and chance.

<sup>6</sup> *Agglutination*, etc., p. 107.



2ndly, that, according to Ludwig's morphological system, it is impossible that there should be any absolute original difference between word-formation and inflexion, while, on the contrary, inflexion is regarded by him as nothing else than a development of the formation previously noticed.<sup>1</sup> There are two periods in the life of the Aryan languages which are not so completely distinct one from the other that we cannot still perceive, in an intermediate age of which not a few traces appear in the Vedic dialect and in the compounds, the linguistic forms peculiar to the one side by side with those of the other.<sup>2</sup> We have also to distinguish several periods in the development of inflexion. "Remnants of an ancient usage show that certain verbal suffixes did not originally stand to the several grammatical persons in that constant relation in which we afterwards find them. It happens at the same time, on the other hand, that these elements present themselves as signs of the infinitive,"<sup>3</sup> the wonderfully various forms of which Ludwig refers to nominal flexion.<sup>4</sup> The infinitive is in the organism of the verb that member which represents in the greatest original simplicity the verbal idea and there are still found infinitives in the bare form of roots. The definition of person does not suffice to constitute the verb and is not inseparable from it: hence it is not the essential characteristic of the verb. The true original verb was the infinitive.<sup>5</sup> And here the learned Prague professor pro-

<sup>1</sup> *Ibid.*, p. 115.

<sup>2</sup> *D. inf. im v.*, pp. 25-9. For ourselves, as we consider the origin and primitive significance of many affixes to be still very doubtful, we cannot accept as theorems of science the inferences which our author draws from his fundamental principle of the original simply demonstrative significance of such elements.

<sup>3</sup> *Agglutination*, etc., p. 104.

<sup>4</sup> *D. inf. im v.*, pp. 45-6, etc.

<sup>5</sup> *Ibid.*, pp. 44-6. *Agglutination*, etc., pp. 104-5. We could wish from Ludwig a clear explanation of the "verbale auffassung," and the "verbale gedanke." The critic of the *Literarisches centralblatt* (1873, pp. 20-2) censures Ludwig for having assigned to the primitive infinitive functions which it only acquired later. Jolly, too, believes that our

ceeds to cite examples of the use of infinitives as of finite verbs in Latin, Greek and Old Indian.<sup>1</sup> The verbal idea is represented in its fulness by the infinitive, incompletely<sup>103</sup> by the participle.<sup>2</sup> Hence it appears that, according to Ludwig's morphological principles, the verbal forms derive their origin from nominal forms and are consequently less ancient than the latter: that the verbal are bound to the nominal by close relations, in such a way that while by means of the participle the verb is lost in the noun, on the other hand by means of the infinitive the noun is lost in the verb.<sup>3</sup> Thus it is seen how the verbal construction encroaches more than is generally thought, upon the field of the noun.<sup>4</sup> Hence it appears, lastly, how that the work *Der infinitiv im Veda* is not only, as might be supposed from the title, a monograph on the form and meaning of the Vedic infinitive, but in fact the exposition of a new system of Aryan morphology. We have already seen what relations exist, according to this system, between the infinitive and the persons of the verb in the several numbers. After the remarks which we have just made on the personal endings it will be sufficient for our object to quote the words with which Ludwig replies to a critical observation of F. Müller:<sup>5</sup> “*ὦ ἄπιστε*, you mistake if you aver that I deny to the personal suffixes any original meaning whatever. I attribute to them the demonstrative as their original significance

author has fallen into mistakes through not having rightly conceived the force of the Vedic infinitive. Bound unconsciously to the traditional idea of the infinitive he attempted in vain to open up new roads for modern philology. We shall have to speak of the infinitive at greater length in one of the paragraphs of this chapter, and we will therefore refrain from further remark upon it in the present note.

*D. inf. in v.*, pp. 50-1, 65-7,

67-8. Delbrück and Jolly recognise in such facts nothing more than natural consequences of the force of the cases in which the infinitives present themselves, not any proof of Ludwig's doctrine, according to which the infinitive was originally the sole expression of verblivity.

<sup>2</sup> *Agglutination*, etc., p. 104.

<sup>3</sup> *D. inf. in v.* pp. 44-5.

<sup>4</sup> *Ibid.*, pp. 46-50.

<sup>5</sup> *Agglutination*, etc., pp. 62-3.

which afterwards gives place to another function, the formation of words; afterwards they assumed a general verbal sense," (that is, of infinitives); "and lastly, when the number of such elements had increased, they were placed, according to accidental analogies and frequently even without any analogy at all, in connexion and relation with the categories of the grammatical persons, categories which had meanwhile been formed into the pronoun of person." Such distinctions of person and number were attached to the several infinitives by the aid of numerous secondary for-<sup>104</sup> mations: hence the so-called personal suffixes.<sup>1</sup> The original force of these suffixes must have been changed therefore, according to Ludwig, by means of three metamorphoses into that which ordinary philology regards as originally characteristic of them.—Let us conclude our exposition with a chronological note. Ludwig has been induced by the study of the language of the Vedas to believe that the grammatical formation of the Proto-Aryan did not attain its perfection ("always only relative,") until about five centuries before the most ancient Vedic period, or about 2000 years before our era. The westward migrations of the Aryans cannot be referred back beyond that epoch, because they all undoubtedly carried with them a language already grammatically developed in a perfect manner.<sup>2</sup>

Hence we have: 1st, the existence of roots and stems originally ending without exception in a vowel and actually employed in speech in such a way as to express, without the aid of suffixes, not only the ideas, but also their definitions; 2nd, expansion of these roots and stems by means of suffixes originally furnished with demonstrative force which, in their intimate union with the stems, was lost; hence a large number of nominal forms; 3rd, a differentiation

<sup>1</sup> See also *D. inf. im v.*, p. 145, etc.    <sup>2</sup> *D. inf. im v.*, p. 148.

*Agglutination*, etc. pp. 115-7.

gradually introduced between such forms to represent with ever increasing accuracy the relations existing between the ideas; hence, for example, the cases; 4th, use of nominal forms to denote verbal conceptions in their widest extent, that is, origin of the infinitives; 5th, genesis of the finite verb from the infinite by means of a differentiation of the numerous forms peculiar to the latter.

Such are the fundamental conceptions of Ludwig's Aryan morphology. We have described them by selecting  
105 from among the very numerous notes which we collected in our perusal of the works of the learned Vedic scholar and philologist those which seemed to us adapted to give an adequate conception of his system, and by arranging them in the manner which we deemed most effective for rendering the development of his thought as far as we could intelligible to students. Nevertheless we are very far from presuming that we have made our readers fully acquainted with Alfred Ludwig as a philologist. Besides that his method of exposition rendered it very difficult for us to follow its search through all the windings which it traversed with rapid and daring step, the limits which we are bound not to transgress in this short review of the most recent works of Aryan philology inexorably forbade us to penetrate into those detailed discussions of special facts which form so large a part of Ludwig's books. Nor can the reader learn from our remarks what sentiments and in what forms his polemic displays against this one or that one of his critics. Nevertheless from what we have said on the doctrines professed by this author it seems to us evident with sufficient clearness that, in starting from facts of which to a great extent either the existence is not certain or the value is doubtful and in availing himself of a phonology which cannot appear to all as rigorous as he thinks it to be, he has arrived at very daring conclusions which would need more numerous and stronger proofs and which have

not found for him, as far as we know, and probably will not find a large number of adherents.<sup>1</sup> We can easily understand therefore how it is that the opinions of Ludwig on the origin of the personal endings seemed to G. Curtius so "subjective" that he did not think fit even to submit them to examination.<sup>2</sup> He however, would make no slight mistake, in our opinion, who should deem the labours of the learned Prague professor of no use to the science of the Aryan languages. Nor do we think that great advantage may be derived from them merely for the study of the Vedic infinitives, but it is our opinion that they will help just as much towards the investigation of the entire structure of the Indo-European languages. And in fact, in the first place, books like that of our author perform in science that office which in civil and political life the so-called opposition parties take upon themselves, that is, they subject to a severe examination the acts of opponents whose authority is great, they weigh their principles and methods, they bring to light their defects, they keep awake the attention both of them and of the public, they assail blind beliefs, they render complete triumph, as well as the absolute and abiding domination of error, almost impossible. Moreover, Ludwig has the remarkable merit of having brought into prominence, as far as was possible, the importance of Vedic studies with respect to the historico-comparative grammar

<sup>1</sup> Bergaigne himself, who to a greater extent than the other critics of Ludwig known to us agrees with his ideas, and considers at least as very probable the theory of the adaptation of the suffixes in conjugation, in declension and in nominal formation, does not give as hearty a welcome, as we have remarked above, to other important parts of Ludwig's morphological system: thus, for instance, he does not think it

true that the verb derived its origin from the noun by means of the infinitive.

[A brief and (as far as it goes) favourable criticism of Bergaigne's views on 'Adaptation' as against 'Agglutination' will be found in Appendix II. of the 2nd edn. of Sayce's *Principles of Comparative Philology*.—Tr.]

<sup>2</sup> *Das verbum der griechischen sprache*, etc., i. 19 (note).

of the Aryan dialects and of having invited the attention of philologists to that principle of differentiation (“*differenzierung*”) the action of which is perhaps, more than is generally believed, frequent and effective in the development of languages. For these reasons we regret that the few and short, but learned and very bold writings of the distinguished German Vedic scholar and philologist are not read and reflected upon by a greater number of students.

§ 17. In the works on Indo-European morphology which we have discussed in the three foregoing paragraphs, and especially in the books of Ludwig, we perceive here and there attempts at a chronological arrangement of the forms of Aryan speech. To this sole object is devoted the well-known monograph of G. Curtius entitled *Zur chronologie der indo-germanischen sprachforschung*:<sup>1</sup> a not very accurate title, which should be understood as though it ran *Chronology in the formation of the Indo-Germanic languages*, or *The division into periods of the history of the Indo-Germanic stock*, as has been well observed by Bergaigne and Steinthal. Among the writings published in the last decade on the entire form-system of the Aryan languages this work of the eminent Greek scholar and philologist is the last with which we have to concern ourselves. Of the few touches drawn by a master hand, of which this most exquisite sketch consists, we will note only the most fundamental, referring those readers who are desirous of more extensive and detailed ideas to the monograph itself of Curtius, to the French translation by Bergaigne and to the Italian

<sup>1</sup> Of this work of Curtius we have been able to read only the first edition (Leipzig, 1867): a second with some additions was published in 1873. It was translated into French by Bergaigne (*La chronologie dans la formation des lan-*

*gues indo-germaniques*, in the first part of the admirable *Bibliothèque de l'école des hautes études*, Paris, 1869, pp. 37-117): it was also carefully epitomised by Giussani in his review, which we shall quote shortly.

abridgment by Giussani. But we will call to mind the critical observations made on this important little work by Justi,<sup>1</sup> Schweizer-Sidler,<sup>2</sup> Steinthal,<sup>3</sup> Giussani, Düntzer<sup>5</sup> and especially by M. Müller.<sup>6</sup>

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The author begins by observing that, if there is a 'history' of language, there ought also to be a 'chronology' of language. In order to construct such chronology, as far as concerns the periods anterior to the most ancient literary records which have come down to us, we can only avail ourselves of internal criteria, which consist in the diligent analysis of the language itself. And here Curtius proceeds to show by some examples how the sounds, the forms and the constructions carefully examined reveal to us here and there a chronological order of formation and development. In the life of the Aryan language ethnographically considered, he distinguishes two principal periods: 1st, that of unity; 2nd, that of plurality of dialects gradually developed from the Proto-Aryan. He discerns two periods also, with Wilhelm von Humboldt, in the history of Aryan, regarded only from a philological point of view, or in its genesis, viz.: 1st, a period of organisation, in which the language acquires its essential form; 2nd, a period of cultivation ("ausbildung") or increase, in which the meanings become perfected, while the sounds decay. It may be almost affirmed that the period of organisation coincides with that of the unity, the period of cultivation with that of the plurality; but, for the sake of accuracy, it should nevertheless be observed that probably the period in which the forms were coming to

<sup>1</sup> *Revue critique d'histoire et de littérature*, 2nd year, 2nd semester, pp. 273-8.

<sup>2</sup> *Zeitschr. f. vgl. sprachforsch.*, xvii. 292-9.

<sup>3</sup> *Zeitschr. f. völkerpsychologie*, etc., v. 340-58.

<sup>4</sup> *Rivista orientale*, single volume, no. 1160-72. 1265-84.

<sup>5</sup> *Die ursprünglichen casus im griechischen und lateinischen* (*Zeitschr. f. vgl. sprachforsch.*, xvii. 33-53).

<sup>6</sup> *Chips from a German Workshop: iv. Essays chiefly on the science of language*, London, 1875, pp. 117-

44.

perfection began before that in which the Proto-Aryan was divided into the various families of languages which sprang from it, as appears from the solidity of the essential forms. In the monograph of Curtius account is taken only of the purely philological division: thus in the formation and development of the Proto-Aryan are distinguished seven periods, the denominations and most striking characteristics of all of which we will indicate with extreme brevity. I. Period of roots (in their simplest form), monosyllabic, not very numerous, already distinguished into verbal and  
 109 pronominal, employed in that oldest epoch as real words (primitive words).<sup>1</sup> II. Period of the ‘determinatives’ (in the sense in which we have already seen this word used by Fick, who borrowed it from G. Curtius): these elements, whose origin is still very obscure, by becoming suffixed to the primitive roots notably increase their number and render them fitted for expressing many differences existing between the ideas which they represented.<sup>2</sup>

<sup>1</sup> It is a fact worthy of remark that Müller now doubts the necessary monosyllabism of the primitive roots. He is afraid of mistaking for actual fact the last result of our intellectual labour which induces us to consider as primitive all that appears more simple, while, he observes, the nearer we approach the sources of the languages, the more frequent do we find the words which represent the most minute differences, the more rare the general expressions.

<sup>2</sup> M. Müller observes that these “determinatives” have not been investigated by scientific analysis with great success, nor do they exhibit in every case the same meaning. He thinks that, instead of supposing to be primitive the simple roots to which the determinatives might have been added, we might with equal right regard as primitive the roots

so-called determinatives: these roots expressing different forms of the same actions might in process of time have lost by elimination the features which distinguished them from one another, preserving only the element common to them all as their most simple form, corresponding to the most general sense. Hence, concludes Müller, the line of separation is quite valueless by which Curtius divides the first from the second of his periods.—But it should be observed that Müller’s theory does not explain to us the existence of the common element just mentioned, which seems very clear on the other hypothesis, and that the latter, as we have already remarked, (§ 10, pp. 50 and 59), is much more in keeping with the constant process of philological investigation.



III. Primary verbal period. To verbal roots are indissolubly attached pronominal roots as signs of the subject: between the former and the latter there is a predicative relation, the precise conception of which is the characteristic of the Indo-Germanic verbal structure; from this bond is produced a small sentence, the germ of the larger sentences. The active forms appear to be anterior to the middle. That furthermore the simplest of the verbal forms came into existence before the nominal stems constructed with special suffixes and before the cases G. Curtius attempts to demonstrate by four arguments: 1st, the primary verbal forms are not numerous; 2nd, they would be denominative, and would show themselves as such, if the manifold nominal forms had preceded them; 3rd, the primary verbal forms were better preserved than the others; 4th, a varied nominal formation anterior to the primary verbal is improbable; before this the formation of the cases would be quite inconceivable. To the period which we are discussing, ~~and~~ which might be variously subdivided, G. Curtius refers reduplication and augment. Hence two forms of present and past, a form without strengthening and a strengthened form, in the active and the middle: no indication of moods. The noun has not yet assumed a form of its own in antithesis to the verb: gender is not yet marked at all.<sup>1</sup> IV. Period of stem-formation. The absence of equilibrium between the verb and the noun, rendered necessary the expansion of roots by means of nominal suffixes increasingly complex,

<sup>1</sup> The illustrious critic above quoted does not regard as very forcible the proofs adduced by Curtius for supporting his assertion of primary verbal formation anterior to any beginning of nominal formation. In order to admit the verbal forms as they were proposed by Curtius, it would be necessary to assume that the phonetic laws existing even in the

first period were not yet fixed in the third. The absence of certain suffixes of nominal flexion from the verbal forms is not sufficient evidence that the former was not developed contemporaneously with these latter, because there is a remarkable difference between the flexion of the verb and that of the noun, nor does language always

and indicating slight differences, other than those which were denoted by intensification and accent. It is probable that the nominal stems were originally very numerous, and that afterwards usage distinguished the one kind from the other. To this age seems also to belong the distinction of

adopt in like cases the same means. It is incomprehensible that, while the first forms of conjugation were already in existence, some form of declension could not yet have arisen. Such also is Steinthal's opinion.

Still more fiercely does the doctrine here taught by Curtius come into collision with that which had a powerful champion in Ascoli (*Del nesso ário-semitico, lettera ad A. Kuhn.—Studj ário-semitici*, article 2nd) and before him, as far as we know, in F. Müller (*Der verbal-ausdruck im árisch-semitischen sprachkreise*, in the *Sitzungsberichte der phil.-hist. cl. der K. Academie der wissenschaften*, xxv. 379-415): a doctrine according to which the verbal stem is a 'nomen agentis.' "We then," writes Ascoli (*Studj*, etc., ii. 33), "should consider that the noun existed in Aryan speech before the verb. For us, the Aryan verb would reveal a vast and continuous system of nominal formations, of appellatives of the agent; all these forms, from that which can hardly be called an expansion of the original monosyllable, to the full trisyllables, should be traced from derivative elements which still continue with like functions in periods relatively modern." Ascoli, therefore, as Giussani observes, would hold that the period of the original monosyllables was immediately succeeded by the period of the nominal stems, the fourth according to Cur-

tius's chronological order. Nor does the necessity of admitting serious phonetic corruptions in so ancient a period of the Aryan language suffice to deter Giussani from giving a hearty welcome to Ascoli's hypothesis: to him it appears quite natural for such corruptions to have taken place in that epoch in which, while Aryan from being monosyllabic became polysyllabic, without losing at once the primitive dress of monosyllabism, this latter must have exercised its influence on several of the new polysyllabic words, shortening them into a single syllable, to which afterwards were united new suffixes. This is a difficult problem which we can hardly hint at in the present note. Let us add only that the desire to discover in every verbal stem a nominal stem may appear to many an exaggerated induction, proceeding from excessively systematic intellectual tendencies, and which, perhaps, cannot be maintained by unassailable arguments. Hence Schweizer-Sidler agrees with Curtius in admitting the existence of a series of verbs which have no denominative character. Such seems to be also Justi's opinion, and Steinthal, as we shall see shortly, regards as contemporaneously developed verbal stems and nominal stems, and considers these to have been in the same period used both in conjugation and in declension.

the masculine from the feminine gender. As the difference which we now see did not yet exist between verb and noun, it may well have happened that nominal stems were, like simple roots, used for verbal stems, e. g. (*bhar-a-*): thus continuous action, expressed first in the noun by the addition of the suffix *-a-* to the root, would have been denoted in the verb as well. Other suffixes of the present may themselves too be considered as nominal suffixes. The nominal stem having in this manner become a verbal stem, may be conceived as a 'nomen agentis.' The number of the verbal forms was thus remarkably increased: to the foregoing were added, 1st, stems in *-a-*, with or without intensification of the radical vowel; 2ndly, stems in *-nu-* and stems in *-na-*. The act devoid of extension in time was naturally represented by the shortest form: the longest, on the other hand, were used, sometimes one of them, sometimes another, to indicate the action conceived as extended or protracted. From this same principle was developed,<sup>112</sup> according to Curtius, also the first distinction of mood: through the relation which is seen to exist between protracted action and action intended to be completed (the original force of the conjunctive), in so far as such actions are both opposed to the act which is rapidly achieved, the author, following Steinthal, discerns in the conjunctive a present denoting duration. At first the short *-a-* as we have already seen sufficed to indicate this mood: when this vowel was for phonetic reasons introduced into forms to which it was originally foreign, then the conjunctive was expressed by lengthening it. Evidently the conjunctive *bharā-ti* bears the same relation to the indicative *bhara-ti* as the conjunctive *hana-ti* to the indicative *han-ti*. Thus mood became completely separated from time. Under the influence of the conjunctive arose a difference between the verbal forms with thematic *-a-* and with the pure radical vowel and the verbal forms with a strengthening of this

vowel: the former expressed the momentary action, the second the continuous action; a difference preserved in the conjunctive and in the imperative, which seems to have been developed in this epoch. V. Period of the compounded verbal forms (compounded with verbs which gradually lost in them their own meaning, and are related to the other verbs something like the article to the pronoun). The compounded verbal forms are divided by Curtius into two classes. A. Tense stems compounded from nominal stems without stem-suffixes with auxiliary verbs. In this function we see: 1st, the verbal root *as* denoting momentary past action (compound aorist); 2nd, the verbal root *ja*, *jā* [to go], according to Bopp and Curtius, from which fundamental meanings come the following: 1st, 'to go about,' etc. (present of duration); 2nd, 'to fall into anything' (passive); 3rd, 'to tend to anything' (optative). From the optative is distinguished in the endings by its fulness the compound  
 113 future, which consist of a verbal stem and the future of the root *as*. To this first class belong various compound forms exclusively peculiar to the several families of the Aryan languages: the germs, however, of such forms are not perhaps posterior to the division of Proto-Aryan. B. Tense-stems compounded from nominal stems, which are already provided with stem-suffixes, and auxiliary verbs (the verbs in *-a-jā-mi* may serve as examples): this composition extends, observes the author, to all the forms of the verb. Nominal flexion cannot have been developed contemporaneously either with the first or with the second class of such compound verbal forms: a compound aorist must have been formed in an epoch in which nominal stems had not yet an ending indicative of number; the presents in *-a-jā-mi* would have been impossible in a period in which men were already accustomed to express by case-suffixes the relation of the noun to the verb. The place of declension

which had not yet come into existence was supplied by several means, and of such we even now see how great is the efficacy in languages of imperfect structure.<sup>1</sup> VI. Period of case-formation, in which the author distinguishes two strata. To the first belong, in his opinion, the vocative, the accusative and the nominative. The close affinity existing between these three cases appears from their identity in the neuter, and from their not interchanging with the rest. The vocative, which in the singular is generally the pure stem, should be considered as a remnant of the preceding period: the formation of the accusative and the nominative appears to Curtius a continuation, a new development of the formation of stems. The case did not appear in its true force until the suffix which represented it, at first not clearly distinguished from the elements of stem-formation, was regarded as movable, and until there became attached to the same stem, without changing the extent of the idea, sometimes one ending, sometimes another, sometimes none. Case-formation was in its origin so intimately connected with stem-formation, that the suffixes *-m* of the accusative, *-s* of the nominative expressed not only the relation of a

<sup>1</sup> Here M. Müller notes that, even after the development of nominal flexion, were formed compounds, the first element of which appears in the form of a stem and not of a case. It is not the fact, observes the distinguished Vedic scholar and philologist, that composition could have taken place only in times anterior to flexion because after this latter the speakers were ignorant of the stem-forms: these stem-forms showed themselves in certain cases of declension, and moreover the sense of analogy was the guide for the formation of new compounds. And it appears to Müller that those very ancient ancestors of ours must

have felt the need for clearly distinguishing the singular from the plural and the nominative from the accusative, before the need for denoting the differences existing between the three persons. Steinthal rejects the argument which Curtius drew in favour of his position from the compound verbal forms, which exhibit nominal stems without suffixes of case and number: this comes about, according to Steinthal, because forms like these are really compounded and not periphrastic. Moreover composition, he teaches us, has no meaning except in antithesis to flexion.

noun to other words, but also its gender, masculine, feminine or neuter. And perhaps this was the original function of these two suffixes, and the indication of gender preceded and gave birth to that of case: when the thing as living was denoted by means of the suffix *-s*, and the thing as not living by the suffix *-m*, it is natural that the former should appear as subject, the latter as object. The singular was probably followed by the plural and afterwards by the dual. That the Proto-Aryan language was for a long period content with this first stratum of cases we see from the extensive use which was made of the accusative. The second stratum comprises all the other cases, among which Curtius selects as the subject of his most exquisite analysis especially the genitive.<sup>1</sup> VII. Ad-  
 115 verbial period. Even before the Aryan unity was split into

<sup>1</sup> This relatively very late origin of the cases does not seem at all probable to Müller and Steintal, who opposes to Curtius's theory the following objections: 1st, there is not, according to it, a proper equilibrium between verbal and nominal flexion in the epochs of their generation, because the forms of the verb would have developed themselves considerably before those of the noun; 2dly, in order to establish the necessary equilibrium between the latter and the former, the formation of nominal stems is not enough, for these cannot correspond (at least in the order of the ideas) to verbal flexion; 3dly, it can hardly be understood how a nominal stem without case-suffix was employed side by side with a verbal form with personal ending, if nominal stems were used as verbal stems. Moreover, the very obscurity in which, even according to Cur-

tius's opinion, the origin of the cases is wrapped, the serious phonetic corruptions of their suffixes, the petrified forms in which they not unfrequently present themselves, and the agreement of the Aryan languages in several of them prove their high antiquity. Steintal, however, in his much commended *Charakteristik der hauptsächlichsten typen des sprachbaues* (Berlin, 1860, p. 300), supposed that, while the nominal forms in *-a-* by means of the addition of personal suffixes were changed into conjugational forms, there were added to the demonstrative *-a-* of those nominal forms other demonstrative elements (and especially *-s* from *-sa*, as mark of the nominative), thus giving origin to declension.

With regard to the resemblance which appears between vocative, accusative and nominative, and which was emphasized by Curtius,

the various families to which it gave origin, some word-forms belonging to nominal flexion became fixed in the form now of this, now of that case, that is to say, they lost the capacity for being completely declined like the rest: from this phenomenon arose adverbs and prepositions, the number of which was afterwards so remarkably increased in the several Indo-European languages. In this function at first were employed especially certain words not very full of meaning, and therefore principally used to express relations of place and time and other closer relations. From the oldest records of the various Aryan dialects, for example, the Homeric poems, we learn that the use of such petrified forms was in Proto-Aryan exclusively adverbial. It was only by degrees that the habit grew of connecting them more closely with verbs and nouns (hence the prefixes); it was only little by little that the relations were formed which are now seen between prepositions and cases; it was only <sup>116</sup> in this last stage of their development that some of the forms in question became post-positions. The infinitives also, observes Curtius, are isolated forms of declined nouns of action: but the wonderful variety which we observe in them, the differences existing between the individual Aryan dialects in the selection of the suffixes which form these infinitives, afford us almost certain evidence that the infinitive was developed not before the division of Proto-Aryan,

Düntzer attempts to give an explanation of it such that their primitive affinity matters not. The suffix *-m* of the neuter is probably a sign of gender in the nouns (as *t* is in the pronouns). The fortuitous coincidence of the accusative singular in *-m* with the nominative in *-m* of neuter stems in *-a-* brought about the result that, by analogy, in all the other neuters, and in all the numbers, the nominative and the accusative were no longer dis-

tinguished from one another. With this hypothesis, which, to tell the truth, does not seem to us to be founded on a very solid base, and with some other observations, Düntzer opposes the doctrine of Curtius, remarking that there is the most marked antithesis between nominative and accusative, and denying to the first of them, no less than to the vocative, the force of a real case.

and independently in the various languages in which it underwent the transformation.<sup>1</sup>

Such is the chronology of the formation of the Proto-Aryan language according to G. Curtius. Justi well remarked that in these researches so novel and so attractive the distinguished Greek scholar and philologist was able to give proof no less of prudence than of boldness, and to collect a large number of facts and place them in the light most suited for them. And Giussani well observed that it is precisely in the attempted arrangement of the facts that the greatest and most alluring merit of this work of Curtius consists. Of the individual ideas which we note in it many are not at all new, others are not of unquestionable value; the fundamental conception of a chronological order in the formation of the original Aryan is certainly anterior, as we have just seen, to this monograph: but its worth and attractiveness consist in the complete realisation, although within very narrow limits, of such conception, in such a manner as to comprehend the entire existence of Proto-Aryan and all the most important phenomena which it presents. Nor, in the opinion of several critics whom we have mentioned, has the heroic daring failed to attain a welcome success, if we except the doctrine concerning the  
 117 late origin of nominal flexion. We should not, however, pass over in silence the fact that M. Müller declared himself opposed to any chronological division, in a strict sense, of the life of language (because none of the forces operating in it is wont suddenly to cease from the exercise of its action, and every period is continued in the following),<sup>2</sup> and affirmed that in the development of the original and

<sup>1</sup> M. Müller doubts whether this period can reasonably be distinguished from the preceding, because several adverbs exhibit the most ancient forms of declension.

<sup>2</sup> We are sure that G. Curtius does not attribute to the word 'chronology' in this work too strict a sense, nor does he intend to draw lines absolutely separating, with



fundamental Aryan we can rightly distinguish only the three phases which we have been accustomed to call the isolating, the agglutinating and the inflexional, and which he makes to consist in the successive prevalence of three different tendencies, each of which impresses a particular character on a period of language (understood in a wide sense) without vanishing altogether in that which follows it, and each predominates in certain classes of languages without being entirely wanting to the others.

We have in another place<sup>1</sup> set forth the grounds on which is based the theory propounded by Schleicher,<sup>2</sup> M. Müller,<sup>3</sup> Whitney,<sup>4</sup> and other philologists, a theory generally received as a demonstrated truth, according to which language must have arrived at the inflexional form only by passing through those of isolation and agglutination: and these grounds consist especially in their conception of the original force of the formal elements and in the marked tendency which is here and there displayed by isolating languages towards agglutination, and by agglutinating languages towards inflexion. We have there stated simply the objections to this doctrine raised by Pott<sup>5</sup> and by Renan:<sup>6</sup> that the change of an inorganic 118 into an organic language is quite inconsistent with the laws of the human mind; that no proof of such change can be derived from the monosyllabism of the Aryan roots, nor

geometrical exactness, from each other the seven periods distinguished by him in the formation of Proto-Aryan.

<sup>1</sup> See Pezzi's *Introduction*, etc., pp. 120-6.

<sup>2</sup> *Die deutsche sprache*, Stuttgart, 1869, p. 45, etc.—*Die Darwinsche theorie und die sprachwissenschaft*, Weimar, 1873.

<sup>3</sup> *On the stratification of language*, London, 1868 (a monograph

re-edited in the *Chips from a German Workshop*, iv. 65-116).

<sup>4</sup> *Language and its study*, etc., London, 1876, lecture 7, pp. 249-87.

<sup>5</sup> *M. Müller und die kennzeichen der sprachverwandtschaft* (*Zeitschr. d. deutschen morgenländischen gesellschaft*, ix. 405-64: see especially p. 412. - *Etymologischen forschungen* etc., 2nd ed., part 2, section 1, p. 95.

<sup>6</sup> *De l'origine du langage*, Paris, 1858, p. 10 sq., 103-17 151-68.

can it be believed that such roots in that their simplest original form were used with the force of words in speech; the farther we go back towards their origin the more synthetic do the dialects appear; we ought not to recognize in the isolating structure of a language a certain indication of a civilisation inferior to that of peoples who speak languages grammatically richer; no example is supplied by the history of languages of the supposed transformation of a system of speech, nor does such hypothesis seem allowable when we reflect how many centuries of undivided life it would be necessary to admit with regard to the original Aryans and Semites in order to be able in this way to explain the development of Proto-Aryan and Proto-Semitic. We have, lastly, stated the very remarkable opinion of Steinthal<sup>1</sup> who thinks that, if the original and fundamental Aryan resembled at all the isolating and the agglutinating dialects, such resemblance was only superficial, and that there was always in its substance another germ endowed with greater efficacy. Steinthal's view seems to be supported by the Italian Lignana,<sup>2</sup> who thinks it "very probable, that the Aryan language before definitely fixing its organism, and becoming established in what we call the first epoch passed through three phases analogous to the three types pointed out by Wilhelm Humboldt," that is, to the isolating type, the agglutinating and the inflexional. "But these phases," adds the learned professor  
 119 of the *Ateneo romano*, " . . . . . are pre-historic and embryonic phases, and the first epoch is that of the completed and definite type." And he calls them "pre-historic, or embryonic, precisely because it is in their nature to pass necessarily the one into the other, and not to stop until the whole evolution in the direction of the type has been com-

<sup>1</sup> *Zeitschr. f. völkerpsychologie, e le tre epoche delle lingue e letterature indo-europee*, Roma, 1871, etc. ii. 238-9.

<sup>2</sup> *Le trasformazioni delle specie* pp. 22-4.

pleted." The Aryan type may have had various periods, each with its own characteristic of structure: "but that does not prevent the types, which have afterwards realised in a permanent manner one of these morphological criteria . . . . . from being the historical antecedents of the Aryan type."—Sayce has declared himself totally opposed to the hypothesis of the evolution alluded to.<sup>1</sup> It is absolutely impossible that the language of a people should pass from one to another of the three forms of speech in question without there being effected what is little short of "a radical metamorphosis of the mind." Moreover, in the theory of the three phases no account has been taken of the polysynthetic and the incorporating languages.<sup>2</sup> It may be added that verbal flexion is not effected entirely by pronouns or by verbs added to roots, but also by vowel-change: nominal flexion is not explained at all, he thinks, by the hypothesis of suffixes of pronominal origin. "Can we suppose that the same people who so distinctly marked out the meaning of *mi* in the verb can have employed it to express the sense of the accusative?" Nor is it of any use to reply that the pronouns, all possessed of indefinite signification, might be attached to the roots at <sup>120</sup> haphazard to express the various relations existing between them in the sentence, out of which the different cases gradually grew in a mysterious way, each appropriating as its suffix one of the pronominal roots in question: to such hypo-

<sup>1</sup> *The principles of comparative philology* (a work quoted before, in which this Semitic scholar and philologist, with vastness of learning and acuteness of analysis, undertook to examine the principles, methods and most important results of recent linguistic investigations): see chap. 4 (*The theory of three stages of development in the history of language*), pp. 132-174 (ed. 2).

<sup>2</sup> It should, however, be observed

that several philologists do not regard these as constituting a fourth and a fifth class of languages, but only a section of the second class, which comprises all the agglutinating languages (in a wide sense). See Pezzi's *Introduction*, etc. pp. 116-8; Sayce, *ibid.*, p. 146; Hovelacque, *La linguistique*, Paris, 1876, pp. 112-5 [now translated under the title *Science of Language*, by A. H. Keane, London, 1877.—*Tr.*].

thesis it might well be answered, 1st, that it is not founded on facts; 2nd, that with such machinery mutual understanding would have been impossible; 3rd, that the supposed merely accidental terminations, far from leading the mind towards analysis, would have confused it; 4th, that certain distinctions which it was most important to make are not seen to be marked at all by means of difference of suffixes; 5th, that, even if we accepted the proposed hypothesis, we should be no nearer finding the primitive language of the Aryans in a condition resembling that of the agglutinating languages, since these do not form their cases by means of pronouns, but use postpositions, or rather nominal and verbal roots. If, in historical times, a word with a meaning defined and independent of any other gradually degenerated into a mere element of flexion, this phenomenon proves only that the tendency towards inflexional structure already swayed the language, nor can what took place in a period relatively late be believed without doubt to have taken place in an epoch far more ancient.<sup>1</sup> How can we know whether the suffixes were once independent words, while their meaning, such as it appears to us in the surviving records of the languages, is certainly not what is attributed to such words? How is it possible that the Aryans, when hardly conscious of the relations of case, represented them by words endowed with an independent existence, suffering  
 121 them afterwards, when such consciousness had become more clear, to be changed into mere suffixes?<sup>2</sup> Phonetic

<sup>1</sup> Let us, however, draw attention to the continuity which is observed in the life of languages, and reflect that it is only from the study of linguistic facts belonging to the historical epochs that we can learn the art of investigating the pre-historic forms of human speech.

<sup>2</sup> The upholders of the theory so fiercely assailed by Sayce might

possibly reply to him, that in the words originally denoting the cases a change took place analogous to that which happened in the conceptions of them: the former and the latter may have acquired in process of time a signification growing constantly less material and more formal.

changes, facts of a purely external and material nature, were not sufficient to produce, as they are not sufficient to explain, such internal and formal revolution of language as would be the change of an agglutinating to an inflexional structure. Sayce regards as even less probable the hypothesis of an isolating condition in the formation of our fundamental language: in that first condition the Aryan root would have been, owing to its peculiar indefiniteness, incapable of denoting an idea limited by another.— Lastly, the opinion undoubtedly deserves notice which has lately been declared on this subject by that learned and profound philologist, Friedrich Müller.<sup>1</sup> Starting from Steinthal's fundamental principles with regard to the various nature and significance of the linguistic types<sup>2</sup> he considers the isolating and formless languages as embryonically related to all the languages which are agglutinating and unendowed with form, while the Chinese, which is isolating, but adapted for distinguishing matter from form, would be embryonically related to the formal inflexional languages. An agglutinating language, which is not adapted for the distinction just noticed, cannot possibly be changed into an inflexional language in which the form appears clearly conceived and represented: it would have to undergo the strangest metamorphosis, which could not be brought about by any cause that we can see.

This lengthy discussion of a problem which appears to us of no slight importance, both for the history of the Indo-European languages, and for the affinities of philology<sup>122</sup> with the Darwinian hypothesis on the changes of species,<sup>3</sup>

<sup>1</sup> *Grundriss der sprachwissenschaft*, i. 139-40.

<sup>2</sup> See *ibid.*, pp. 77-82; Steinthal, *Charakteristik*, etc., sect. 4; Pezzi's *Introduction*, etc., pp. 129-32.

<sup>3</sup> On this subject, besides the works already quoted of Schleicher and

Lignana, see Ferrière, *Le Darwinisme*, Paris, 1872, part 2 (*La sélection dans les langues*), pp. 107-39; Müller, M., *Mr. Darwin's Philosophy of Language* (in *Fraser's Magazine*, May—July, 1873); *Id.*, *My reply to Mr. Darwin* (in the *Chips*, etc., iv. 433-72), etc.

has led us, if we mistake not, to the following conclusion : although not all the Aryan forms which are generally considered as grown from agglutination are to be regarded undoubtedly as such, we nevertheless find several which, not to have recourse to very rash hypotheses, we are forced to assume to have arrived slowly at the inflexional condition from that of isolation through an intermediate period of agglutination ; but, from their very origin, such forms, or rather their rudiments were powerfully attracted towards the inflexional structure by a linguistic tendency peculiar to those conjugating and declining languages which Steintal calls endowed with form : a tendency which seems to separate them, even in their germs, from all the other languages. With this conclusion, which appears to us the most probable in a subject so difficult, we bring to an end the discussion of the most recent works on the origin and development of the Indo-European forms of speech as a whole and we proceed to treat, with greater brevity (as is evidently necessary), some works of less extent on the stem-structure and inflexional structure of the Aryan languages.

§ 18. Among works of this kind the first that meets us is the *Commentatio* of Wehrich *De gradibus comparationis linguarum sanscritae graecae latinae gothicae* (Gissae, 1869), which was *ab amplissimo philosophorum ordine in Academia Ludoviciana praemio publico ornata* : and not undeservedly, since the author in the ample development of his subject gives proof of accurate observation and subtle examination  
 123 of facts. Wehrich's monograph is divided into two books : in the first is discussed the meaning and usage of comparison ; in the second the formation of the degrees. It is not our business to follow the author in his analyses of the various kinds of comparison, of its syntactical value, of the suffixes and the other means by which we find it expressed in the four languages mentioned. But our task is

to make clear the conception which Wehrich holds of comparison. Seceding from the ancients and from many moderns, who, like them, understood in too narrow a sense the use of the suffixes of comparison, and proceeding by the new route opened up by Corssen, he sought to reach the original meaning of those elements, which, according to him, must be considered 'local.' He discovers proofs of his affirmation in several forms, undoubtedly very ancient, as appears from comparing together the Aryan languages, which denote relations of place by suffixes which we see later becoming signs of comparison. How from this original sense its later significance was developed let us hear from the author himself: "Aliunde vero novinius linguam in antiqua illa intuendi ratione, qua omnes conditiones ad loci analogiam perciperet, non acquievisse, sed eas res, quae ad animum pertinerent, etiam animo i. e. sensu interiore comprehendisse. Quare lingua, cum vellet in aliis substantiarum accidentibus gradus quosdam distinguere, easdem illas antiquissimas rationes in qualitates proprias, quae animo percipiuntur, per metaphoram quandam transtulit et ex horum accidentium nominibus suffixorum comparativorum auxilio nova adiectiva derivavit, quae comparativus et superlativus vocantur. Hinc prima illa significatio comparationis e loquentium memoria sensim evanescere coepit, ut posterioris aetatis homines res pure cogitatas non amplius ad loci analogiam intuerentur, sed sicut mente comprehendebant, ita etiam ad animum referrent."<sup>1</sup> The cases <sup>124.</sup> which, in the ordinary parlance of grammar, are said to be governed by the comparatives, themselves also declare the most ancient significance of comparison, being those which denote the motion by which a man approaches or withdraws from anything (ablative, genitive, instrumental in Old Indian, genitive in Greek, ablative in Latin, dative in

<sup>1</sup> See the whole of chapter 1 (*Quid gradus comparationis*), pp. 1-13.  
*sit comparatio et quid significant*

Gothic): hence a new argument in favour of Wehrich's position with regard to the original sense of the suffixes of comparison.<sup>1</sup>

§ 19. To stem-formation belong also two other works which we propose to notice briefly, one of which concerns the formative suffixes of the various present-stems, the other the element which is generally regarded as a sign of the optative mood.

The first of these is the dissertation of Brugman entitled, *Zur geschichte der praesentstambildenden suffixe*.<sup>2</sup> The author begins by distinguishing the present-stems which are simple roots from the denominative present-stems, which he considers to be later than the former. And as the radical presents do not seem to be at all different in meaning from the nominal presents, as he terms them; as, further, we very frequently see various present-suffixes used without any kind of difference in the same verb, while the force of such suffixes in the no-  
 125 minal stems does not seem clear, accordingly Brugman does not believe that such elements were originally adapted for representing important definitions of the verbal conception, for example, as some think, that of 'duration.' He regards as unoriginal, and brought about only by phonetic causes, the limitation of these suffixes to the present-stem: in proof of this affirmation he adduces the most ancient use of the suffixes *-ta-*, *-na-*, *-nu-* and *-ja-*,

<sup>1</sup> ". . . . Cum res, quacum comparatur, ita cogitari nobis videatur, ut componatur vel colloceatur cum ea re, quae comparatur, et separetur ab ea, sententiam uostram de significatione primaria optime probatam gaudebimus, si comparationis, uti perceptio ipsa e locorum intuitione profecta est, structuram syntacticam eadem cogitandi dicendique ratione constare deprehenderimus. Ac pro-

fecto rei, quacum comparatur, nomen eam declinationis formam induere videmus, qua vel componendi et consociandi vel separandi et discernendi notio significari solebat" (ibid., see pp. 31-5).

<sup>2</sup> *Sprachwissenschaftliche abhandlungen hervorgegangen aus G. Curtius' grammatischer gesellschaft zu Leipzig*, Leipzig, 1874, pp. 153-75.



a use which in fact does not appear to be connected with the idea of 'continued action.'

The second of the two works alluded to is a monograph of that most learned Indian scholar and philologist, Theodor Benfey.<sup>1</sup> His aim is to prove that the optative in the original Aryan was formed by means of a composition of verbal stems with the indicative and with the conjunctive of the present and imperfect of a frequentative or intensive verb, *ī* (= *ii*, a reduplication of *i* [to go]) also expanded to *īā*, with the sense 'to have recourse to, supplicate, desire, wish' derived from that of 'going often or anxiously.' Thence several forms which Benfey recognises, more or less faithfully preserved, as formative elements of the optative mood in the various families of the Indo-European languages. Benfey's reasoning failed however to convince Bergaigne, who does not think it proved that the above mentioned *ī* had the force of a suffix in conjugation; it is no proof of this that it was used as an auxiliary in Latin and in Sanscrit: the very multiplicity, observes the French critic, of the roots meaning 'to go,' used in Vedic periphrases shows us that "the category was as yet more in the spirit than in the language." Besides it is one thing to be used even frequently<sup>126</sup> in periphrases, another thing as a regular suffix. Lastly the illustrious German philologist has recourse not to a real root, but to a verbal stem which probably belongs only to Old Indian.<sup>2</sup>

<sup>1</sup> *Über die entstehung und die formen des indogermanischen optativ (potential) so wie über das futurum auf sanskritisch syāmi u.s.w.*, Göttingen, 1871. See the observations made on this work of Benfey by the learned Bergaigne in the *Revue critique d'histoire et de littérature*, 6th year, 1st. semester, pp. 194-8.

<sup>2</sup> With the optative is closely connected the future compounded with *-s-ja-* (= *as-ja* =), which also is referred to Proto-Aryan. Of the various means used by the Indo-Europeans to express future action we have spoken in a *Dissertazione storico-comparativa on the Formazione del futuro attivo negl' idiomi italici ed ellenici* (Torino, 1871),

§ 20. From these researches on the subject of tense- and mood-suffixes we pass on to those which concern the personal endings, a subject which gave Friedrich Müller an opportunity of putting forward, in two very short dissertations,<sup>1</sup> some ideas incompatible with the doctrine ordinarily followed,<sup>2</sup> which have been subjected to a minute examination by G. Curtius.<sup>3</sup> The fullest forms of the personal suffixes, observes Müller, are generally regarded as primitive, and as derived from these by means of phonetic corruptions the others which are less rich in sounds: hence the division of such suffixes into primary and secondary. But what, he asks, could possibly be the cause of these supposed phonetic corruptions? May it be, perhaps, that the augment, by drawing upon itself the acute accent, weakened the final syllable? It is known that in the oldest condition of Indian, Iranian and Greek, the augment was very far from being as common and as  
 127 regularly used as in the classical age of these languages:<sup>4</sup> it may be noticed, moreover, that the optative and the imperative had no augment. May it be, perhaps, that there was in languages like these a tendency to mutilate the last syllable of the words, especially the vowels? If

laying stress on the fact that the Aryan languages do not exhibit a verbal form exclusively belonging to the future, and distinct from those of the present: whence it appears that the difference between that which is being completed and that which is to be completed was not understood by the primitive Aryans and translated into language so precisely as the antithesis between the completed and the incomplete (p. 42).

<sup>1</sup> *Zur suffixlehre des indogermanischen verbums* (Sitzungsberichte d. K. Academie der wissenschaften,

*phil.-hist. cl.* xxxiv. 8-16 and lxvi. 193-212).

<sup>2</sup> Schleicher, *Compendium*, etc., pp. 663-706. Curtius *Das verbum d. gr. spr.* etc., i. 34-103.

<sup>3</sup> *Zur erklärang der personalendungen* (Studien z. gr. u. lat. gram., iv. 211-23). The critical notes with which we shall furnish our description of Müller's theory will be drawn from this work of the renowned Greek scholar and philologist.

<sup>4</sup> Schleicher, *Compendium*, etc. pp. 749-61.

that were the case, the weakening would appear in all the suffixes : it is not, in fine, a phenomenon which belongs to the most ancient period of our languages. Supposing a weakening of *-ma* to *-mi* to have taken place, there would have been intermediate forms between the first and the second : as it is, no trace of them appears in Aryan languages.<sup>1</sup> Hence F. Müller cannot recognise in the so-called secondary personal suffixes forms less ancient than the primary. Nor can he bring himself to believe that the plural and dual endings are due to the additional composition with two pronoun-stems, 1st, for phonological reasons; 2ndly, because in no language of high organisation is there found a plural pronoun formed in a similar manner (as is shown also by Semitic and Turkish examples); 3rdly, because in several of the suffixes to be explained we fail to find the supposed composition; 4thly, because, in fine, the compounds of the class mentioned are almost exclusively peculiar to Indian and Iranian.<sup>2</sup> He pronounces a judgement no less severe on the ordinary theory of the middle 128 endings, which are generally thought to have been pro-

<sup>1</sup> Here, however, we should notice with Curtius that it is a fundamental idea of historico-comparative grammar that the fullest forms have preceded the others. For the rest, even in Proto-Aryan we find examples of weakening of *a* to *i*, e.g. to *ki* from *ka*, *dvi* from *dva*, etc. It is not conceivable that several grades of phonetic decay must be admitted between *a* and *i*: probably there was only an *ə*, which we shall have to notice again. There is no need to wonder that there have not come down to us intermediate forms, which are so often wanting, especially when we treat of forms anterior to the division of Proto-Aryan.

very important the usage of languages which are of a different stock, and which frequently diverge from Aryan. He admits that there do not exist, in pronominal flexion, plural forms constructed by means of the addition of two stems, but considers declension to be developed subsequently to conjugation. The laws of the composition of nominal stems already fully formed are very different from those which governed the beginnings of all flexion. Of additional composition we have examples in a class of words which have several relations with personal pronouns, that is in the numerals.

<sup>2</sup> Curtius does not regard as

duced by the reduplication of the corresponding active endings. First of all, it seems to him very strange that an *m*, an *s*, a *t*, between vowels, should have vanished in the primitive Aryan; secondly there are some endings which cannot be explained at all by such hypothesis; in the third place we must not regard as object either the first or the second of the two supposed suffixed pronouns; not the first, because in Aryan compounds the dependent member (with a single exception for forms of no great antiquity) precedes the member on which it depends (hence the suffixed pronoun denoting the object should precede the verbal stem); not the second, because such suffixes representing the object, and added at the end to a form and afterwards fused with it (as in Semitic) are not a characteristic of the Indo-European linguistic stock; nor, lastly, are we justified in recognising, e.g. in the *-ma-* (from *-mā-*?) of *tudamai* (from *tudamāi*, *tudamāmi*?) an accusative of the pronominal stem *ma-* inserted between the verbal stem *tuda-* and the active ending *-mi*, both because insertions are foreign to Aryan and for other reasons which it would take too much time to state here.<sup>1</sup> Since, therefore, the distinguished professor of the Vienna Atheneum cannot give his adherence to the doctrine generally professed on the development of the personal endings, he reconstructs  
 129 the history of them in the following manner, dividing it into five periods all belonging to Proto-Aryan: we will notice their fundamental characteristics. Period I: addition of personal pronominal stems to stems of verbs without exact determination of number and tense (ex. *tuda-ma*).

<sup>1</sup> F. Müller, according to this critic, is wrong in proceeding here to judge of very ancient formations, taking for the guide of his own opinions linguistic tendencies which prevailed only in subsequent epochs. By similar arguments most assured

facts might be brought into doubt. Thus, for example, if there are not in Aryan objective suffixes apart from verbal flexion, it is only in this that we find subjective suffixes: shall we be obliged on this ground to deny the latter also?

Period II: intimate cohesion of the two parts of the verbal expression with weakening to *ě* and afterwards vanishing of the final unaccented *a*- sound of the suffix (*tuda-mě*, hence *tuda-m*)<sup>1</sup> Period III: indication of number (*tuda-m-as*, plural, formed from *tuda-m* by the suffix *-as* which appears in this function also in nominal flexion—*tuda-v-as*, dual, in which the *-vas* comes, by a process of differentiation, from *-mas*). Period IV: expression of the reflected action by means of an *-a*- (pronominal stem of the third person, parallel to *-sva*<sup>2</sup>), which only in course of time became fused with the verbal expression; hence the middle endings (*tuda-m-a*)<sup>3</sup> Period V: denotation of the present by means of the suffix *-i* (pronominal stem signifying that which is more near at hand), contemporaneous with that of the imperfect, the aorist etc. by means of a prefixed *a*- (which itself, too, is a pronominal stem, but denoting remoteness); in the latter the tense-sign precedes, in the former it follows (*tuda-m-i*, *tuda-m-as-i*, *tuda-ma-i* etc.—*a-tuda-m* etc.).<sup>4</sup> Such formations are naturally followed by certain <sup>130</sup> phonetic corruptions (*-ma* from *mas* etc.). The description

<sup>1</sup> The hypothesis of this disappearance does not seem easily reconcilable with the opinion which we have just seen expressed by Müller on the phonetic decay of the suffixes. If we believe possible a weakening of *a* to *ě* why should we deny a weakening of *ě* to *i*? On what grounds will one who admits a vanishing of *a* refuse to admit a weakening of *a* to *i*?

<sup>2</sup> That such *a* may have a reflexive force has by no means been demonstrated.

<sup>3</sup> F. Müller does not explain by his hypothesis the secondary middle forms and imperative forms on which especially the common theory is based which perceives in the ter-

minations in question reduplicated active suffixes.

<sup>4</sup> It has been observed, not without reason, that verbal stems in a consonant could not long preserve forms with the endings *m, s, t* without a vowel, before the *-i* of the present was added to them. And it seems strange that by such an addition a tense should be indicated which least of all needs to be marked by a peculiar suffix, since the combination alone of an object with a predicate, affirmed in the present, is sufficient to cause it to be conceived as holding good for the present. The position also of such *-i* may seem strange, while other tense-marks (augment, reduplication) are initial.

which we have given of the theory of this illustrious philologist with respect to the formation of the personal suffixes, and the critical observations of G. Curtius, which we have stated, appear to us sufficient to convince the reader that a theory like this contains elements of very doubtful worth perhaps to a greater extent than the ordinary doctrine, especially if it is assumed in the form in which it was set forth by the learned author of the work above cited on the structure of the Greek verb.— And now, since we cannot, without being led into too long and minute disquisitions, examine certain other treatises on verbal flexion, treatises of a very special subject<sup>1</sup> and of very slight importance for our object, we proceed at once to notice several works on the subject of declension.

§ 21. Let us start with three treatises which concern the origin of nominal flexion<sup>2</sup> considered in all or almost all its forms. In the first of such treatises, a work of Chaignet,<sup>3</sup> only a few pages are devoted to the subject which we are discussing, but in these the author labours to combat the doctrine of Bopp with regard to the pronominal nature and the primitive independent existence of the elements which make up Indo-European declension, observing 1st, that owing to the profound difference there is between the endings of verbal flexion and those of nominal flexion, the suffixes of the latter cannot be considered as personal pronouns; 2ndly, that even admitting the local signification of the cases, it does not follow from

<sup>1</sup> Among these it will be enough to quote as an example Benfey's monograph *Über einige pluralbildungen des indogermanischen verbum*, Göttingen, 1876.

<sup>2</sup> Under this term we propose, as always, to comprise also pronominal

flexion, that is to say declension as opposed, in all its extent, to conjugation.

<sup>3</sup> *La philosophie de la science du langage étudiée dans la formation des mots*, Paris, 1875 (see pp. 185-94).

this that they came from personal pronouns, which were certainly not (except those of the third person<sup>1</sup>) mere demonstratives with such signification; 3rdly, that if the impugned hypothesis be accepted, the cases of such pronouns, which are themselves declinable, can no longer be explained; 4thly, that the elements of nominal flexion appear for the most part in too slight a form to admit of their being considered as words having originally an independent existence.<sup>2</sup> To illustrate the genesis of the cases Chaignet attempts to resuscitate a doctrine which for a long time appeared to be dead and forgotten, according to which the so-called suffixes of declension would come, as a rule, from an "organic development," natural, necessary, multiplex in its forms: "we ought, therefore, to believe that the greater part of the cases consisted originally only in hardly sensible shades ('nuances') of utterance, of which the mind, owing to the law of economy which is common to it with nature, and owing to the need of clearness which is peculiar to it, made itself master, causing to proceed therefrom, by the due development of them, the whole system of declension." And this may suffice for Chaignet's book: a book in which the procedure often starts from philosophical conceptions foreign to the science of language, or, from linguistic facts too wide consequences are deduced; a book which is here and there wanting in that strict accuracy which is one of the most fundamental characteristics of every truly scientific work.

The second of the treatises which we ought to notice is 132

<sup>1</sup> It is precisely in these that the philologists of Bopp's school (with some very rare exceptions) usually seek the origin of the formative suffixes of the cases.

<sup>2</sup> To support this objection, the only one which seems to us of a cer-

tain (at least apparent) importance of all those which the author raised against the ordinary theory, he has recourse to examples drawn from epochs in which such elements had already become weakened by slow phonetic decay!

a monograph of Bergaigne,<sup>1</sup> in which that learned French Indianist and philologist, considering, with G. Curtius,<sup>2</sup> declension as a development of derivation (or stem-formation), proposes to investigate the sense of the stem suffixes, the combination of which constitutes nominal flexion, with the exception of the elements *-s*, *-m* and *-t*, to which alone he allows for the present the name of endings, without, however, ceasing to recognise in them three elements of derivation. First, he enumerates the various methods of final expansion of stems; secondly, he divides such expansions into two classes, one of which corresponds to the strong cases and the other to the weak cases; in the third place he propounds a hypothesis as to the function of the first and the second. We will describe briefly, using frequently his own words, the results obtained by the researches of the author. In nominal flexion Bergaigne recognises two kinds of derivation. The one is formed by the suffixes *-as*, *-an-*, *-i-*, *-ā*, *-jā-* (*-i*), which are attached to the strong form of the primitive stem without displacing its accent: it is nothing but a prolonged primary formation of feminine and neuter abstracts; hence, owing to the affinity existing between abstract and plural,<sup>3</sup> it was used to denote this number and the dual. The other takes place by means of the elements *-sma*, *-sjā* *-sja* and *-jā*, *-i*, *-an* — *-bhi*, *-su*, *-i* — *a* and *-ā*, which are united to the weak form of the fundamental stem and generally draw upon themselves the accent: a derivation which changes the primitive stem into an adjective which performs the function of a genitive and assumes, as an adjective used adverbially, the sense of the instrumental,

<sup>1</sup> *Du rôle de la dérivation dans la déclinaison indo-européenne* (*Mémoires de la Société de linguistique de Paris*, ii. 358-79).

<sup>2</sup> See above, p. 121: see also, on pp. 108-9, Ludwig's opinion.

<sup>3</sup> For instance, Bergaigne quotes the word *humanity* (Ital. *umanità*) which may be used in a sense precisely equivalent to that of the plural *human beings* (Ital. *uomini*).



the ablative, the locative, and even the dative. The suffixes of each of these two classes of stem-formation are sometimes reduplicated, while, on the other hand, the cases of the plural and the dual which should contain an element of the first and an element of the second class, sometimes lack that one which indicates the number. These derivatives are further, in certain cases, augmented by one of the three final elements *-s*, *-t*, *-m*: which, already distinguished from those previously noticed in that they are not followed by any other, are also the only elements which appear united to the fundamental stem in those cases which have no need either of the derivative suffixes expressing the number, or of those which denote the an-nominal case or the adverbial cases, that is to say, in the nominative, accusative and vocative singular. The novelty and attractiveness of this work consist in the examination of the significance of the stem-expansions in declension. But, besides that the results of the researches of Bergaigne are extremely hypothetical, as the author himself admits, there would always remain the task, even for one who accepted them as demonstrated truths, of solving another and not less difficult problem, to discover the origin and the original meaning of those derivative elements which were used to denote numbers and cases, among which, the signs of the nominative-vocative and accusative singular, of which Bergaigne did not attempt even the analysis, are perhaps those which it would be of most value to us to see satisfactorily explained. We hope the illustrious author will continue his investigations: not a little may be expected from his talent and his learning.

The idea of an intimate affinity between stem-formation and declension appears also in the third and last of the works above mentioned.<sup>1</sup> The object of the author is to

<sup>1</sup> Meyer Gustav, *Zur geschichte und declination, Leipzig, 1875. der indogermanischen stammbildung*

show how in Indo-European word-formation stems in *-a-*, *-i-* and *-u-* are interchanged. Hence he gives us a tolerably long list of stems in *-i-* parallel to stems in *-a-*; a second  
 134 list of much smaller dimensions of stems in *-u-* having beside them stems in *-a-*; a third, very short, of stems in *-i-* corresponding to stems in *-u-*; lastly, a fourth with three forms distinguished from each other by the final vowel *-a-*, or *-i-*, or *-u-* (e.g. Sansc. *açra açri*, Lith. *asztrù-s*). He then comes to the relations existing between the stems in *-a-* and those in *-i-* in nominal flexion. The stems in *-a-*, he observes, exhibit in one part of their cases stem-forms in *-ai-*; this happens also with the stems in *-i-*: hence the two series *-a-*, *-ai-*, *-aja-* and *-i-*, *-ai-*, *-aja-* exhibit, as far as regards the stems in *-i-* of the second, parallel forms in *-a-*. Forced as we are to leave unnoticed many other of the author's opinions we will only note how he explains the genitive plural, in which he recognises a stem expanded by means of a suffix (*-sa-*, *-a-*, *-na-*) which does not indicate the case, and to which is added the ending *-m*, and this ending alone in such a formation would represent the genitive plural.—In this monograph of G. Meyer we agree with Bezenbergher<sup>1</sup> in gladly praising the independence of judgment and method, the acuteness and the carefulness, the conciseness and the exactness of the exposition: but we cannot refrain from observing that the novel analyses of certain forms of flexion should call for stronger proofs and that some of them seem to us almost arbitrary. Nor with regard to the results of the investigations above noticed does the conclusion of the critic whom we have quoted differ much from our own.<sup>2</sup>

<sup>1</sup> *Göttingische gelehrte anzeigen*, 1875, pp. 1104-20.

<sup>2</sup> We think worthy of notice also the studies of Brugman *Zur ges-*

*chichte der stammabstufenden declinationen* (i. *die nomina auf. -ar und -tar*; in the *Studien z. gr. u. lat. gramm.*, ix. 361-406) and *Zur*

§ 22. T. Benfey in two quite recent dissertations attempted to illustrate the origin of the vocative and of a form of the genitive singular in Aryan.<sup>1</sup> The distinguished philologist regards it as almost certain that in the primitive and fundamental language of the Indo-Europeans the nominative, in all three numbers and without change of sounds, was used also in the function of vocative. But, owing to the special nature of this second use, it seems 135 that the accent was gradually drawn towards the first syllable. This tonic distinction, after becoming a rule, especially in the singular, constituted, so to speak, the individuality of the vocative and occasioned the disappearance of the final *-s* of the nominative singular masculine and feminine of certain stems when it was used in the sense of a vocative. But, in our opinion, it is not easy to see why this displacement of the acute accent could not have taken place in the simple stem as far as concerns the vocative singular, which might belong to a more ancient formation than the plural and the dual.—No less worthy of remark is the explanation which Benfey proposed of the Proto-Aryan genitive singular in *-īans, īas, -īa*. In these terminations he discovers various forms of a well known suffix of comparison. “As the genitive denotes properly ‘belonging’ and is therefore substantially a possessive, so it is quite natural that it might also have been formed by means of an exponent which serves to form possessives. That these moreover avail themselves of affixes of the com-

*geschichte der nominalsuffixe -as-, -jas-und-vas-* (in the *Zeitschr. f. vgl. sprachforsch.* xxiv. 1-99). Under the name of ‘stammabstufung’ or ‘thematic gradation’ Brugman understands the different conformation which the same stem, verbal or nominal, with or without a suffix, assumes when the different suffixes of the persons and the cases are

added to it: a phenomenon which is occasioned by the fact that such suffixes are partly accented, partly without accent, and which Brugman refers to Proto-Aryan.

<sup>1</sup> *Über die entstehung des indogermanischen vokativs*, Göttingen, 1872.—*Über die indogermanischen endungen des genitiv sing.* *īans, īas, īa, ib.*, 1874.

parative is a known fact" (cf. Gr. ἡμέ-τερο-ς, Lat. *nos-ter* etc.). The *-sāa*, *-sja*, which in the singular corresponds to *-sām* (beside *-ām*) in the plural, is according to Benfey, an ending originally merely pronominal, which then was introduced also into the declension of nouns and the initial *s* of which is probably (like that of *-sām*) a remnant of a pronominal stem united in composition to others in which we find these endings.

§ 23. The various infinitives which present themselves in the languages of Aryan stock are generally considered by the philologists of the historico-comparative school as petrified forms of nominal flexion. We have already described Ludwig's doctrine with respect to such forms<sup>1</sup> and 186 our readers know what importance he has attributed to them in the development of the primitive Iudo-European language. Whatever may be the judgement which others think they are bound to pronounce on that doctrine, with regard to which we have noticed the views of several critics and expressed our own opinion, no one certainly will be inclined to deny the great value of the collections of linguistic facts furnished by Ludwig concerning the form and usage of the Vedic infinitives, collections which have been justly praised by Delbrück and by Jolly. Previously to Ludwig, Wilhelm had deserved well of Indo-European philology, as far as concerns the study of the infinitive, by a monograph<sup>2</sup> which, considerably added to some years after<sup>3</sup>, was welcomed with praises by J. Benfey<sup>4</sup> and by other linguists<sup>5</sup> for the carefulness the learning and the critical power which we admire in it: it has however been observed that the author has not made sufficiently

<sup>1</sup> See § 16, pp. 108-10.

<sup>2</sup> *De infinitivi vi et natura*, Eisenach, 1869.

<sup>3</sup> *De infinitivi linguarum san-scritae bactricae persicae graecae oscae umbricae latinae goticae forma et usu*, Isenaci, 1872.

<sup>4</sup> *Göttingische gelehrte anzeigen*, 1873, pp. 869-72 and 1751.

<sup>5</sup> See the criticisms of G. Meyer (*Zeitschr. f. vgl. sprachforsch.*, xxii., 334-40) and of Holzman (*Zeitschr. f. völkerpsychologie*, etc., viii. 361 seqq.).

clear the slow process by which the infinitive attained its peculiar force. The accurate investigation into this development constitutes the chief value of Jolly's work entitled *Geschichte des infinitivs im indogermanischem* (München, 1873). The necessity for being brief and for not wandering into too minute disquisitions, which concern the individual languages rather than the Aryan stock in its unity, sternly forbids us from following Jolly in the description which he gives, in critical fashion, of the various doctrines held with regard to the infinitive by the old grammatical schools (pp. 12—48) and by the new historico-comparative and psychological school (pp. 49—76) and does not permit us to follow him in the analysis to which he subjects the infinitives peculiar to each of the Indo-European languages (pp. 96—228). Still less <sup>137</sup> must we notice in a manner at all detailed the observations of the critics.<sup>1</sup> Of the very numerous notes therefore which we have collected in reading Jolly's book we will give only those which contain the final results of his researches.<sup>2</sup> Among the very various terminations of the infinitives in the Aryan languages there is only one, *-dhjāi* in Indo-Iranian = *-σθαι* in Greek, which Jolly thinks can with certainty be referred to the primitive and fundamental language of the Aryans. This however might have possessed, not indeed infinitives, but rather tendencies to form them in different ways: thus the author agrees with the opinion expressed by G. Curtius in the *Chronologie*, etc., though he at the same time admits that even in the Proto-Aryan certain cases of verbal substantives may have become petri-

<sup>1</sup> See the reviews by Schweizer-Sidler (*Neue jahrbücher für philologie und paedagogik*, vol. cix., sect. 1, pp. 1-6), by Holzman (*Zeitschr. f. völkerpsychologie*, etc., viii. 361-5), by Bergaigne (*Revue*

*critique d'histoire et de littérature*, 8th year, 1st semester, pp. 337-41) and by Bezzenbergber (*Göttingische gelehrte anzeigen*, 1874, pp. 1067-75).

<sup>2</sup> *Ibid.*, pp. 228-37.

fied, because between the infinitives and the prepositions (some of which belong to the period of Indo-European linguistic unity) there exists an affinity which cannot be denied. It is further indisputable that in the period alluded to the language became prepared in two ways for the formation of the infinitives, that is, by developing the category of the noun of action (to which a large number of suffixes contributed) and by the verbal construction of these nominal forms. Jolly then proceeds to distinguish five stages in the development of the infinitive. 1st stage: the old construction with the accusative (which was perhaps originally the only *casus obliquus*) is preserved in a series of abstract verbal nouns, and for this usage certain suffixes are selected, whence arose a more and more close affinity between the  
138 nominal forms mentioned and the corresponding verbal forms; it might be called the supine-stage. 2nd stage: while the Slavo-Lithuanian languages, the Classical Sanscrit and the Persian do not go beyond the first stage, in the three principal languages of the European civilisation the infinitive penetrates, even in pre-historic times, into the purely verbal sphere of tense-formation. 3rd stage: besides indicating various tense-relations the infinitive proceeds also to mark with exactness the difference between the active and the middle and passive, especially in Greek. 4th stage: while in the preceding stages the infinitive became more and more verbal, in this we see it re-approaching the noun, assuming here and there the function of subject, allowing itself to be preceded by the neuter article and being declined like a substantive; a phenomenon which reaches completion only in epochs decidedly historical, appearing in Attic Greek, in New High German and especially in the Romance languages. 5th stage: change of the old infinitive of object into accessory final clauses, or even those of another kind; this transformation, occasioned by the ever increasing need of clearness, was completed only in ages relatively

very late and we find frequent examples of it especially in Modern Greek.—Thus Jolly himself summarized his account of the infinitive in the Aryan linguistic stock. It is hardly necessary to say that his accurate and acute researches have met with frank and cheerful acceptance at the hands of criticism. It has however been observed<sup>1</sup> that he did not show that he had a clear conception of the infinitive, in recognising infinitives in certain forms which have beside them other cases of the same stems. But adverbs also, which are closely related to infinitives, are petrified forms of declension and nevertheless very often other cases correspond to them, nay the very cases that are used adverbially are yet found here and there with a different meaning. What<sup>139</sup> really impresses upon a stem-form the character of an adverb or that of an infinitive is not therefore, Holzman concludes, the lack of other cases of the same stem, but in fact the non-recognition of the bond existing between the one and the other. The want of other cases is only an index, by no means the cause of the formation of the infinitives. From this fundamental conception Jolly ought to have started, Holzman thinks, in his investigations into the changes of the Aryan infinitive.<sup>2</sup>

§ 24. The order which we have followed leads us now to notice the most recent studies on the subject of composition. The work to which we wish especially to draw the attention of our readers is Tobler's book *Über die wortzusammensetzung*, etc., and it is this which we shall discuss in the present paragraph. In order to understand what was, in Aryan philology, the doctrine of composition before Tobler's work it will be useful to recur, not to the *Compendium* of Schleicher, but to Justi's treatise *Über die*

See Holzman's criticism quoted above.

<sup>2</sup> See also Jolly's monograph *Zur lehre vom particip* (*Sprachwis-*

*senschaftliche abhandlungen aus G. Curtius' grammatischer gesellschaft zu Leipzig*, Leipzig, 1874, pp. 71-94)

*zusammensetzung der nomina in den indogermanischen sprachen* (Göttingen, 1861). It is divided into two parts: in the first is discussed the form, in the second the meaning of compound nouns. With respect to the form Justi distinguishes three stages in the development of composition: 1st, the simple primitive juxta-position of word with word; 2nd, complete composition; 3rd, its decadence.<sup>1</sup> When further the meaning of the compounds is considered, we find them divided into two great classes. The first or inferior comprehends all the examples of coordinant and of subordi-  
 440 nant composition, which is subdivided into determinative composition<sup>2</sup> and composition determined by relation of case.<sup>3</sup> The second or superior is either relative<sup>4</sup> or adverbial.<sup>5</sup>

We now come to the work of Tobler above noticed.<sup>6</sup> It is divided into three sections, in the first of which the

<sup>1</sup> Of the first stage we find examples for the most part only in Old Indian and Bactrian. A characteristic of the second, peculiar to the Aryan stock, is the purely thematic form of the determinant member, while the determinate appears furnished with the forms of flexion (e.g. *κλυτό-μαντις*). A mark of the third grade is the appearance of the composition-vowel which unites the two members and which Justi discusses as well as the stems and the accent in compounds.

<sup>2</sup> The determination may be appositional or numeral: the former is further distinguished as comparative and purely appositional.

<sup>3</sup> This "is found when the first or determinant member must be conceived as dependent on the second member in a case" (p. 102).

<sup>4</sup> It is "a kind of composition which compresses a whole relative sentence into a single word, which,

however, just as much as the whole sentence, has a relative meaning:" he adduces, as an instance of this, the sentence *ἐφάνη Ἡὸς ῥοδοδάκτυλος=ἔ. Ἡ. ἤτιμι οἱ δάκτυλοι ὥστε ῥόδα εἰσίν* (p. 117). While in the compounds previously noticed the subject was external to them, this kind of composition comprises the subject in itself (p. 118).

<sup>5</sup> "Here too a whole small sentence, which may always be explained by an 'is,' is reduced by composition to a single word, the second member of which is always a noun, the first generally an indeclinable one" (p. 126).

<sup>6</sup> *Über die wortzusammensetzung nebst einem anhang über die verstärkenden zusammensetzungen, ein beitrag zur philosophischen und vergleichenden sprachwissenschaft*, Berlin, 1868.—See Steinthal's critical observations in the *Zeitschr. f. völkerpsychologie*, etc., vi. 264-80.



author proceeds to distinguish composition from other formations apparently similar. And, first of all, he notes the difference which separates composition from flexion and from derivation: a difference consisting, he thinks, in this—that flexion and derivation (considered as a preparation for the flexional form) give origin to words, or to linguistic elements which have come to be parts of speech only by means of these, while composition presupposes them already existing as such;<sup>1</sup> in the products of conjugation and of declension the elements<sup>141</sup> are much more closely united together than in compounds; moreover the affixes of flexion (like those of derivation) are as a rule attached to the final part of the stems, in composition on the contrary the determinative word-form precedes (in the form of a stem) the fundamental; lastly, in composition the free and conscious activity of the speaker appears much more than in flexion and in stem-formation. Hence he goes on to the differences existing between composition and reduplication, union of roots, incorporation, syntactical construction. The second section investigates “the internal differences of composition:” the latter is divided by Tobler into legitimate and spurious;<sup>2</sup>

<sup>1</sup> But, as Steinthal appropriately remarks, just as the author does not by any means deny that the elements also of flexion and of derivation may have been once, at any rate partly, word-forms endowed with an independent existence, with a meaning of their own, so the difference indicated would not be of great importance: the products of stem-formation and of flexion might be only very ancient and petrified forms of a primitive composition, of which what we generally call by that name would be only a continuation. This is certainly not Tobler’s opinion.

But in order not to be forced to such conclusion it is advisable, continues Steinthal, to lay down more clearly the fundamental ideas. “A form of flexion consists of a stem and a suffix: a compound is made up of two stems, to which regarded as a unity a suffix is added.”

<sup>2</sup> Tobler is wrong, according to Steinthal, in refusing to regard the co-ordinant or copulative (*dvandva*) as legitimate composition. Who has proved that there is no real composition except where there is a relation of subordination of one member to the other? It is not the

legitimate into proper and improper. But it is not easy to conceive with exactness and to mark in a few words the differences alluded to.<sup>1</sup> We are therefore constrained to pass them over in silence as also some brief disquisitions, of very slight importance for our object, with which the second section concludes. The subject of the third is composition logically and psychologically considered. Then come two fresh divisions, of which it will suffice to describe summarily the first. I. Relation of reciprocal complement, co-ordination: 1st, the two members are generally species of one and the same genus, and therefore there is between them  
<sup>142</sup> an antithesis, but they appear united together exceptionally to form a new unity (ex. *ἀνδρογύνης*); 2ndly, the two members are in a certain manner varieties of the same species, hence the one is not opposed to the other (a rarer case, ex. *καλοκαγαθός*). II. Relation of unilateral complement, subordination: 1st, the second member stands to the first actually as genus to species (ex. *κιτρόμηλον*); 2ndly, the second member is considered as a genus relatively to the whole; the grammatical relation of the second to the first element of these compounds may be (a) attributive (in a narrow sense), (b) a relation of case. We will pass over as foreign to the nature of this book the three psychological forms of composition which are noted by Tobler and to which he attempted, without complete success (as he himself was ready to admit), to make the logical and the grammatical forms of it correspond. Whence it appears, observes Steinthal, that in spite of the acute

use of copulative composition, but only the Indian abuse of it that we must condemn. It is the most sensible, poetic, forcible form of composition: it was afterwards lost or corrupted by the increase of the power of abstraction.

<sup>1</sup> The critic quoted above by no

means approves the method followed by Tobler in this subject: a better plan would have been to trace the type of composition from the study of linguistic tendencies; then by comparing with it the various compounds, to determine the degree of meaning peculiar to each of them.

investigations and speculations of the author, the first attempt to found on a psychological basis the doctrine of composition has not met with great success.<sup>1</sup>

§ 25. Let us consider now whether in stem-formation, in inflexion, in composition, traces have been discovered of a common origin of the Aryan and the Semitic languages. F. Müller, in his work on this subject before quoted,<sup>2</sup> attempts to demonstrate that both the constitution of the word, and the various categories of it, and the structure of the compounds separate the Aryan stock from the Semitic. The former in word-formation employs only suffixes: the latter suffixes and prefixes. Aryan possesses 143 three categories of gender, Semitic only two, but the latter marks it also in the pronoun of the 2nd person and in the 2nd and 3rd person of the verbs; in the oldest language of the Aryans we find eight cases, in that of the Semites not more than three; with the full development of the Indo-European verb is contrasted, under the head of the expression of the tenses, the Semitic conjugation restricted to two forms only with a temporal force, that is, to signifying by suffixes completed action, by prefixes action in process of completion. Nor again can it be said that the variety of composition belongs to Semitic which we have seen in Aryan; moreover in the former the determinant always follows the determinate, while on the contrary it

<sup>1</sup> We will here further mention in a note three works, which, although they do not concern the entire Aryan stock, may nevertheless be of no slight help to any one who studies composition in the Indo-European linguistic unity.

Meunier, *Les composés syntactiques en grec, en latin, en français et subsidiairement en zend et en indien*, Paris, 1872. — Schröder,

*Über die formelle unterscheidung der redetheile im griechischen und lateinischen mit berücksichtigung der nominalcomposita*, Leipzig, 1874. — Clemm, *Die neuesten forschungen auf dem gebiet der griechischen composita* (from the 7th volume of the *Studien* edited by G. Curtius).

<sup>2</sup> *Indogermanisch und semitisch*, etc., pp. 11-5.

constantly precedes in Indo-European compounds; lastly Semitic can attach the object, if it be a pronoun, immediately to a verbal form.—As F. Müller brought out clearly the differences existing between the two stocks, so Ascoli both in the *Letters* to A. Kuhn and to F. Bopp<sup>1</sup> and in the *Studj ârio-semitici*<sup>2</sup> with that vastness of knowledge and that acuteness of intellect which we admire in him, attempted to trace and set forth what appeared to him indications of primitive affinity between the languages of the Aryans and the Semites. The grave differences observed by other philologists are not sufficient to shake his faith. He admits that symbolism is much more frequent in Semitic than in Aryan flexion, but does not regard it as such a characteristic of the former as to be able to separate it absolutely from the latter. He admits that the Aryan word is formed only by suffixes, while the Semitic word exhibits both suffixes and prefixes; but he does not think himself bound, by reason of this <sup>144</sup> difference, to regard as impossible the affinity of the two stocks; “the division must have taken place before the true verb had come into existence from the close union of the pronoun with the nomen agentis.” Our readers are already familiar with Ascoli’s comparison of the Aryan present-stems with the supposed Semitic radicals:<sup>3</sup> the one and the other we should regard as roots with suffixes of the agent, ‘nomina agentis,’ from which nouns, by means of intimate connexion with pronouns, both the Aryan and the Semitic conjugation have derived their origin, but “the one independently of the other.” Ascoli also considers as common to the two great families of languages two suffixes of comparison and several of nominal flexion. These comparisons of Ascoli were criticised

*Politecnico*, xxi. 190-216; xxii. 121-51.

<sup>2</sup> *Memorie del R. Istituto lom-*

*bardo*, etc., *cl. di lettere*, etc., x. 1-12, 13-36.

<sup>3</sup> See above, pp. 63-4.

perhaps too severely by F. Delitzsch in the book of which we have spoken.<sup>1</sup>—After the works of Ascoli on the difficult subject which we are treating, we are very sorry to be obliged to mention a book by Raabe,<sup>2</sup> far inferior to them in scientific worth. The author teaches us that by his book “an affinity is proved between the two stocks of language: but an affinity like this has not yet been discovered between languages of any sort.” In Raabe’s work one might look in vain for a phonology and a syntax; among the Aryan languages for the most part advantage is taken only of the languages of the Indo-Iranic section; to numerous and considerable lacunæ (especially in the theory of conjugation) are added incredible caprices: this work therefore by no means furnishes us with a demonstration, not even an exclusively morphological one, of the supposed affinity between Aryan and Semitic. We think it therefore useless to speak of it<sup>145</sup> at greater length, nor is it more worth our while to pay attention to the few and unimportant considerations of Schultze on words and principally on grammatical gender in the little work mentioned above, *Indo-germanisch, semitisch und hamitisch*. We may therefore proceed at once from morphological investigations to the syntactical researches made during the last decade by several philologists of the historico-comparative school with a success for the most part not unworthy of the noble laboriousness which they have devoted to it.

§ 26. In the introduction to a book which we shall have to notice again<sup>3</sup> Jolly sketched briefly the history of these studies, mentioning the researches of J. Grimm, of Micklosich, of Diez on the syntax of the Teutonic,

<sup>1</sup> See above, pp. 39, 43-4, 65-7.

*sprachen*, etc., Leipzig, 1874.

<sup>2</sup> *Gemeinschaftliche grammatik der arischen und der semitischen*

<sup>3</sup> *Ein kapitel vergleichender syntax*, etc., München, 1872, pp. 3 sqq.

the Slavonic, and the Neo-Latin families; describing how, among the foremost, L. Lange as early as 1852 demonstrated the possibility and the necessity of a historico-comparative investigation of the syntactical phenomena over the whole field of the Aryan languages; setting forth the reasons why, with the exception of two short monographs of Schweizer-Sidler on the ablative and the instrumental in the Rig-veda (1846-7) and the remarks of Régnier also on Vedic syntax (1855), no work of any importance on the subject of which we are speaking has been published until the last decade; noticing, lastly, the very remarkable treatises of Delbrück and Windisch and other philologists. And, as far as concerns especially the meaning of the forms of nominal flexion, Hübschmann, in the first part of a very recent work of his<sup>1</sup> of which we shall speak soon, traced in a detailed and critical exposition the develop-  
<sup>146</sup>ment of the syntax of the cases, studying it first in the ancient grammar (which in his opinion begins with the investigations of the Greek philosophers on the subject of language and reaches to G. Hermann<sup>2</sup> inclusive), afterwards in the school of philology to which the powerful genius of Wilhelm von Humboldt gave impulse, lastly in the historico-comparative science of language. The opinions manifested by distinguished investigators on the subject of the original meaning of the cases have also been set forth and examined by Holzweissig<sup>3</sup> in a very recent work. But the zealous reader may learn from the two works above mentioned the history of the long intel-

<sup>1</sup> *Zur casuslehre*, München, 1875 (erster theil: zur geschichte der casuslehre, pp. 1-146).

<sup>2</sup> With regard to this great scholar see also Freund, *Triennium philologicum oder grundzüge der philologischen wissenschaften*, etc., i., Leipzig, 1874, pp. 80-81.

<sup>3</sup> *Wahrheit und irrthum der localistischen casustheorie: ein beitrug zur rationellen behandlung der griechischen und lateinischen casus-syntax auf grund der sicheren ergebnisse der vergleichenden sprachforschung*, Leipzig, 1877, pp. 1-24.

lectual struggles which, in this department of the science also, the arduous acquisition of certain truths cost. It is our business, spurred on as we are by the length of the subject, to describe at once, with some critical notes, the most important results of the syntactical researches of which we have made mention, starting from the investigations into the meaning of the cases.

We first come to two treatises by Delbrück concerning the use of four forms of declension.<sup>1</sup> It is well at the outset to see what method the author has observed. In vain, he teaches us, has philosophy with its speculations, in vain has morphology with its analyses attempted to discover the primitive force of the cases: the only means is the historical examination of their usage. The "fundamental idea (Grundbegriff)" of a case is the most ancient signification of it which it is possible to trace, whether it consists of only one or of more ideas: a fundamental idea, not perhaps absolutely, but certainly relatively to us, so that beyond it we cannot push our investigation. If therefore the families of the 147 Aryan languages had faithfully preserved the eight cases which Delbrück, with the school of philologists to which he belongs, regards as Proto-Aryan, the comparison of the senses of each of them in the individual families alluded to would be quite possible, and by it would be discovered the

<sup>1</sup> *Ablativ localis instrumentalis im altindischen lateinischen griechischen und deutschen, ein beitrage zur vergleichenden syntax der indogermanischen sprachen*, Berlin, 1867. — *Über den indogermanischen, speciell den vedischen dativ* (in the *Zeitschr. f. vgl. sprachforsch.*, xviii. 81-106; 2nd and improved edition of the monograph *De usu dativi in carminibus Rigvedae*, Halis, 1867).

two works see the opinions of Schweizer-Sidler (in the *Zeitschrift* quoted above, xvii. 301-2), of Thurot, (in the *Revue critique d'histoire et de littérature*, 4th year, 1st semester, pp. 114-16) and of Leskien in the *Gött. gel. anz.* 1868, pp. 475-80). On the 1st. ed. of the latter a somewhat unfavourable opinion has been expressed by Goldschmidt in the *Gött. gel. anz.*, 1868, pp. 600-9.

With regard to the first of these

original sense of each of them.<sup>1</sup> But of these eight cases some have been lost in European Aryan. Nevertheless just as the comparison of several cases still existing in it with the corresponding Vedic cases shows the meaning of them to be common to the former and the latter, so we may believe that the forms of nominal flexion not preserved by the Aryan languages of Europe had a meaning not very different from that with which we see them endowed in the above mentioned most ancient records of the Indian family. Such is the fundamental principle of Delbrück's method: it remains now to note the most important results of his researches. In comparing Slavonic with Teutonic, Greek with Latin, it is perceived that the loss of certain cases took place in the individual languages, that is after their separation. What is, according to the author, the cause of such  
 148 loss? The more vividly ever increasing culture caused to be felt the want of representing with exactness the relations existing between the ideas, the less adequate did the cases appear for this end: thus recourse was had, with constantly greater frequency, to prepositions. This usage diminished

<sup>1</sup> This position, which will appear to our readers so consistent with the method followed by the linguistic-students of our time in all the other branches of the historico-comparative grammar of the Aryan languages, is assailed by Thurot, who thinks that syntax cannot make use of such comparisons as they are made use of by the theories of the sounds, the roots, the stem suffixes and flexional suffixes, because the phenomena of grammatical construction might have taken place in the individual languages, or separately, in such a way that the not unfrequent coincidence of two or more languages in a syntactical character-

istic would not so much indicate originality in this as affinity in the modes of conception peculiar to the speakers of those various languages. But one who admits the Proto-Aryan origin of a form of flexion and sees it used with a meaning always fundamentally identical in all or nearly all the families of the Indo-European languages, has not, we think, any right to deny the originality of this meaning, especially when it is such that it can be easily reconciled with the intellectual condition of the pre-historic Aryans, according to the conception of it to which we are led by the most certain results of linguistic studies.



gradually the value of the declensional endings and interchanges could readily take place among them : lastly, perhaps, after some period of uncertainty, language selected, out of two or more, one form which also took upon itself all the meanings of the others.<sup>1</sup> Thus the surviving cases made up for those which were lost : such is the position which Delbrück proposes to maintain, by showing what in Greek, in Latin, in Teutonic are the syntactical successors of the primitive cases which have not been preserved, in each of the meanings which belonged to such cases. But since our task is only to discuss the linguistic facts which are spread over the whole Aryan stock, we shall not follow Delbrück in his investigations of the cases which succeeded those that were lost in the languages mentioned, and we shall rest content with noticing the primitive meanings which he attributes to the locative, the instrumental, the dative. The fundamental conception expressed by the ablative is the idea of 'separation : ' to this are to be referred all the senses in which Delbrück points out this case to have been used ; by it is explained also the ablative of comparison. We have a locative properly so called and a locative of object : the first of them has a varying meaning of place and time, and is used also like the absolute cases in the classical languages ;<sup>2</sup> the second in many constructions is hardly distinguished from the first. The <sup>149</sup> 'being together' is the conception originally expressed by

<sup>1</sup> To the influence exercised by the prepositions must be added, Hübschmann observes (*Zur casuslehre*, etc., pp. 85-6), the action of phonetic laws and of the accent.

<sup>2</sup> The characteristic of this construction consists, according to the author, only in that the locative of a noun-substantive has added to it also a participle, itself naturally

also in the locative case. To the primitive locative and instrumental absolute syntactically corresponds the ablative absolute of the Latins : the original locative absolute is represented in Greek by the genitive absolute, which is not to be compared with the Indian, this latter being posterior to the Vedic age.

the instrumental, which Delbrück observes to denote sometimes concomitance, sometimes the means by which (that is to say 'together with which') an action is done (sociative or comitative instrumental, instrumental of means).<sup>1</sup> These cases appear frequently used with prepositions; but, observes the learned philologist, it would be an old error to think the preposition governed the case, or the case the preposition; it is rather an adverb which is added to the case to indicate with greater exactness in which of the various meanings belonging to it we are to understand it. Lastly, the original function of the dative was to denote the 'tendency to something' (thus agreeing with the locative of object): from this fundamental meaning of 'inclination,' or 'motion' of the body or of the mind spring all the other senses which belong to this case and the datives of advantage and disadvantage, to use the ordinary phraseology, are explained, as well as the dative of possession and also that of purpose. To any one who further carefully considers the use of this case, especially in Sanscrit and in Latin, it will appear probable that in Proto-Aryan it was not joined with prepositions.

Instead of proceeding from the form of the individual cases to the investigation of their uses, as his predecessors had done, Autenrieth in the dissertation entitled *Terminus in quem, syntaxis comparativae particula* (Erlangæ, MDCCCLXVIII) started from this terminus, inquiring what cases were used to denote it.<sup>2</sup> A severe judgement has been

<sup>1</sup> But, observes Schweizer-Sidler, if, for example, the ablative had had, even in the most ancient epoch, the clearly determined function of expressing the idea of 'separation,' how could its form, even in the most archaic Sanscrit, have been confounded in the singular for the most part with that of

the genitive, and how could the suffix *-bhi* have been common to the dative, the ablative and the instrumental? Delbrück's explanation therefore does not seem to the illustrious critic at all sufficient to solve the problem of the primitive meaning of the cases.

<sup>2</sup> "Ut alii congesta exemplorum

passed by Holzman and Hübschmann<sup>1</sup> on the method<sup>150</sup> followed by Autenrieth: we do not think the importance and the attractiveness of his researches great enough to make us recommend them to the attention of our readers, although certainly this treatise is not wanting in the merit of scholarship nor in that of accuracy.—A remark will suffice also with regard to the monograph of Siecke *De genetivi*<sup>2</sup> *in lingua sanscrita imprimis vedica usu* (Berolini, 1869), in which the author investigated the various uses of this case in the Vedic Indian, paying attention also to the Epic and the cognate languages. An observation of Benfey on this work<sup>3</sup> appears to us noteworthy. The eminent Indian scholar and philologist cannot agree with Siecke in accepting the theory of Max Müller on the genitive, which the latter regards as an adjective of relation in a thematic form

copia varium singulorum casum usum investigare student, ita opinor licet e contrario quaerere, qui casus adhibeantur ad exprimentam certam aliquam notionum seriem. In his autem termini quos vocant, locales et temporales, imprimis digni sunt quibus indagandis operam demus, et initium equidem faciam ab eo quem terminum in quem vocare consueverunt grammatici" (p. 5).

<sup>1</sup> Holzman observes (in the *Zeitschr. f. völkerpsychologie*, etc., vi. 488-92) that by the method alluded to is sought "the expression of ideas and forms of ideas whose existence itself has not yet been proved." For the conception of the 'terminus in quem' may belong to Latin, Greek, Teutonic, without being Proto-Aryan. Moreover such method needs the knowledge, which we possess only in part, of the primitive meaning of the cases and of various senses which were developed

from it.—Hübschmann (*Zur casuslehre*, p. 72) speaks of Autenrieth as follows: "He finds his 'terminus' expressed by all the *casus obliqui* of Sanscrit, Zend, Old Persian, Greek and Latin, and rightly, to tell the truth, if the German translation is the standard by which we should judge the grammatical forms of those languages. And as that is not the case, so Autenrieth's work, otherwise praiseworthy for its diligence, is a failure.

<sup>2</sup> The 'γενική πρῶσις' of the Stoics should probably be rendered in Latin by 'casus generalis' (a term which we find in Charisius), or the 'case which expresses the genus' as opposed to the species, etc. See Hübschmann, *Zur casuslehre*, pp. 12-4.

<sup>3</sup> *Göttingische gelehrte anzeigen*, 1869, pp. 1255-63.

161 without expression of gender.<sup>1</sup> The fundamental conception common to the genitive and the ablative is, according to Benfey, the idea of 'proceeding from,' with this difference that the ablative marks at the same time the 'detachment' from the point of departure, while on the other hand the genitive denotes the 'remaining united' with it.

Jolly's *Geschichte des infinitivs im indogermanischen*, a work of which we have spoken already in the foregoing morphological considerations, contains also a syntactical portion in which there is a discussion of the accusative and of the dative with the infinitive (pp. 243—70). After having set forth and examined the various hypotheses by which it was attempted to throw light upon those constructions in which the accusative is generally regarded as subject of the infinitive,<sup>2</sup> Jolly lays stress upon the last one mentioned by him, according to which the accusative in the construction in question should be understood as object of the verb of the principal clause.<sup>3</sup> But these hypotheses belong for the most part to a period of philological investigation anterior to that of which we are briefly narrating the history and therefore it is not our business to occupy ourselves with them further. We ought rather to turn our attention to the use of the dative with the infinitive (e. g. in the Vedic sentence quoted by Jolly *pībā vṛtrāja hāntavē* [bibe Vritrae occidendo:]) a use in which Ludwig<sup>4</sup> was the first to notice the agreement of the Indo-Iranic with the Slavonic

<sup>1</sup> Comp. the genitive *δήμοιο* (from \**δημοσιο*) with the adjective-stem *δημο-σιο-*. See Hüschmann, *Zur casuslehre*, p. 104 sqq.

<sup>2</sup> On this subject see also Albrecht's monograph *De accusativi cum infinitivo coniuncti origine et usu Homericō* (in the *Studien z. gr. u. lat. gramm.* edited by G. Curtius iv. 1-58) with bibliographical re-

marks on the last two pages.

<sup>3</sup> We find this construction frequent especially in Greek posterior to the Homeric age and in Latin: we find scanty traces of it in Sanscrit and Zend, none in old Persian and Keltic, few in Teutonic, Slavonic and Lithuanian.

<sup>4</sup> *D. inf. im v.*, pp. 29-35.

syntax, in which it is widely extended, and which finds a parallel (though not directly) in the dative with the particle of necessity in Latin. This construction does not depend, like the one just mentioned, on the principal verb of the sentence: it consists in nothing else than the union of the dative with the case of a verbal noun.

We will end this section with a few remarks on the frequently mentioned work of Hübschmann *Zur casuslehre* and on the little work of Holzweissig *Wahrheit und irrthum der localistischen casus-theorie* which also has been quoted before. Hübschmann's book is divided into two parts: the subject of the first we have already seen to be the history of the doctrine of the cases; the second is a theory of these and of the particles in the language of the Avesta and of the Persian cuneiform inscriptions.<sup>1</sup> Let us see what, according to Hübschmann, are the results of the most recent studies on the primitive force of the cases.<sup>2</sup> The relations which they represent are either altogether determined logically, or entirely indeterminate and simply grammatical; to the latter correspond the nominative, the accusative and the genitive; to the former the locative, the ablative and the instrumental; whether it is to the first or the second that we ought to add the dative is as yet uncertain, for we do not clearly know its original force. To the nominative which exhibits the noun as subject, that is, throws it into relief as the most important element of the

<sup>1</sup> Both parts are discussed in the *Göttingische gelehrte anzeigen* (1875, pp. 477-80) by Bezenberger, who in proportion to his depreciation of the first commends the second, as one which in his opinion renders a service to science by the detail and extreme diligence and acuteness of its researches, to which may be added the very successful illustration of many

words and passages of the Avesta. On the first part of this work on the other hand a very favourable judgement has lately been passed by Holzman in the *Zeitschr. f. völkerpsychologie*, etc., ix. 153-8, eulogising the clearness of its exposition and the sagacity and diligence of the author.

<sup>2</sup> *Ibid.*, pp. 131-7, 244-5, 213-4.

sentence, is opposed the accusative,<sup>1</sup> the case of the object, the case which shows us in the noun only a complement of  
 153 the verb, without even indicating what is logically the relation of the former to the latter; hence the necessity of employing other cases or prepositions to express the logical nature of such relation.<sup>2</sup> The genitive (the 'adnominal' case in antithesis to the other *casus obliqui* which are 'adverbial') marks the relationship of an idea expressed by a noun to another idea equally nominal, but without determining logically such relationship. The locative indicates the 'where' (rest in a place), the ablative the 'whence,' the instrumental the 'means,' the 'concomitance,' in a local, temporal and metaphorical sense. As far as concerns the dative the author seemed at first inclined, with Delbrück, to recognise in it the case denoting 'motion towards something.' In favour of this opinion, Hübschmann observes, is the close connexion in which we find the dative with the case indicating 'motion to a place' in other linguistic stocks: the consideration also that, if this were not the fundamental meaning of the dative, we should not have in Aryan a case expressing 'motion towards a place' beside the ablative which indicates the 'departure from a given point' and the locative which denotes 'rest' in antithesis to motion; lastly, as a stronger argument, in defence of Delbrück's

<sup>1</sup> Here we may be allowed to remind the reader that this term which still prevails both in the classical schools and in the science of language, is by no means consistent with the real meaning of this case, or with the name given to it by the Stoics, *αἰτιατικὴ* (*πτῶσις*): a name which was mistranslated into Latin 'accusativus,' while as Greek etymology, the evidence of the grammarians and the usage of the case shew, the *αἰτιατικὴ*

*πτῶσις* is the case 'denoting the cause,' (hence the name 'causativus' handed down to us by Priscian). See Hübschmann, *ib.*, pp. 10-2.

<sup>2</sup> From the primitive nature described of the accusative is seen 1st the cause of the very extensive use of the case, 2ndly, the reason why the nominative of neuters, to which the function of subject seems to be ill adapted, is morphologically identical with the accusative.

doctrine we have the fact that, in the most ancient Indo-European languages, the dative is found united with verbs of 'motion to a place' (from which meaning may easily be derived the sense of 'purpose'), while the Neo-Latin languages make up for the lost dative by the preposition *ad*. But afterwards these did not seem to Hübschmann sufficient proofs: then, reflecting that the dative in the Aryan languages is hardly ever united to prepositions and that for the most part it does not really indicate 'motion to a place' unless it is joined with verbs which of themselves express the same idea, he discovered in the dative "the case of the participant object, the object in relation to which the predication has meaning." Such is the theory of the fundamental function of the forms of nominal flexion according to this learned Iranic scholar and philologist, from whom indeed Holzweissig<sup>1</sup> does not differ much. For he, like Hübschmann, divides the cases into two classes, the first of which comprises the grammatical, the second the local cases: to the first belong the nominative (case of the subject), the accusative (case of immediate determination of the verb, or the predicate) and the genitive (case of immediate determination of the noun); to the second belong the ablative (which indicates motion from a place), the locative (expressing rest in a place), the dative (motion to a place), lastly the so-called instrumental (representing the being together with). Very soon the accusative was used to perform the functions of the dative in indicating motion to a place, and the significance of the dative became less and less local in the narrower sense of the word. It was only with the cases which in the consciousness of the speakers had a local meaning that prepositions were joined. Let us now turn to the second syntactical problem the solution of which has been very recently attempted in most valuable monographs,

<sup>1</sup> *Ibid.*, see especially pp. 37-8, 85-7.

the problem of the origin and development of secondary sentences.

§ 27. One among these which deserves accurate examination is certainly the relative sentence, to the illustration of which Windisch forcibly contributed by his *Untersuchungen über den Ursprung des relativpronomens in den indogermanischen sprachen*:<sup>1</sup> a work which gives proof of very extensive learning and philosophic tendencies, merits on which we are glad to be able to congratulate the author, already several times mentioned, regretting only that here and there etymological digressions, always learned, but not always seasonable, render it less easy for the reader to follow the development of the leading conception. It will therefore be useful to bring out the fundamental ideas contained in this monograph, in such order as may seem to us to answer best to the exigencies of clearness and brevity. We will remark therefore, in the first place, that the author, following the teaching of Apollonios Dyscolos (“*πάσα ἀντωνυμία ἢ δεικτική ἐστὶν ἢ ἀναφορική*”), divides the pronouns into two classes: the first comprises all those pronouns whose function is to mark directly objects existing in reality or conceived as existing in the external world, objects before unknown or at least not yet indicated in speech by their own names; to  
 155 the second belong the pronouns which refer to objects already named. The former are called by the Greek grammarian *ἀντωνυμῖαι δεικτικαὶ* (we will call them ‘demonstrative’): the latter *ἀντωνυμῖαι ἀναφορικαί* (and for these we will retain, with Windisch, to avoid risk of confusion, their Greek name). From the various function of the one kind, and the other, it is easily understood why Apollonios considered *δείξις* as a *πρώτη γνῶσις*, or *δείξις*

<sup>1</sup> In the *Studien z. gr. u. lat. gramm.* edited by G. Curtius, ii. 201-419.—Read what Tobler has

written hereon in the *Zeitschr. f. völkerpsychologie*, etc., vii. 333-44.



τῆς ὄψεως, and on the other hand ἀναφορά as a δευτέρα γνώσις, or a δειξίς τοῦ νοῦ. Δειξίς was the primitive function of the pronouns (wrongly so called), which existed even in a period of the life of the languages in which men did not yet speak in connected sentences, for they belong to the oldest radical elements of language. But the function of indicating immediately objects of the external world, a function which all the pronominal stems must have possessed originally, was not retained in the perfected condition of the Aryan languages, except by a few which Windisch calls "purely demonstrative (echt deiktisch)." After the formation of the noun "the independent pronoun, which retained as before its function of mediator between speech and the external world, could not only indicate the real object existing in it, but also the image of such object, the spoken word." . . . . "From what has been said it follows that pure δειξίς and ἀναφορά were not originally distinguished by means of special pronouns, but that the pronouns which, so long as there was no ἀναφορά, represented exclusively pure δειξίς, were employed also to express the former as soon as it came into use." That the process was from δειξίς to ἀναφορά, not *vice versâ*, is clear not only from logical considerations, but from the historical study of the use of the pronouns. The anaphoric pronouns may be subdivided into demonstrative and simple: in the former there is still the δειξίς which is wanting altogether in the latter, whose task consists in 156 nothing else than representing a previously mentioned noun. From these general conceptions we pass on to the relative pronominal stem *ja-* to which we must pay particular attention. Windisch brings out first of all two facts: 1st, that this stem *ja-* is in every case an expanded form of the pronominal root *i*; 2nd, that it does not always appear with the meaning of a relative pronoun, but often here and there as a simple pronoun of the third

person. From the course of the investigation the purely demonstrative force originally belonging to the pronominal root *i* becomes more and more evident, and it is seen how, even before the fundamental Aryan became transformed into several languages, it was weakened to a simply anaphorical function. Nor does this conclusion result only from the comparison of the Aryan languages with one another, but only because, immediately after the division of Proto-Aryan, the stem *ja-* retained the force of a simply anaphorical pronoun even in those languages whose records no longer exhibit it except as a conjunctive relative (“satzverbindendes relativum”). The development of the latter from the former is described by Windisch as follows: “first the use of an ordinary anaphoric pronoun was limited to the case in which the two sentences belonging to it were very closely connected together in their ideas; secondly, the relative pronoun was placed first; thirdly, there came about a change of the usual order also of the other words in the relative sentence.” At first the bond between this and the principal sentence was close and necessary, so that the one could hardly be understood without the other: afterwards were developed relative sentences less tenaciously connected with the principal sentences to which they referred.<sup>1</sup>

<sup>1</sup> To the results of Windisch’s researches on the origin of the relative pronoun and the relative sentence in the Aryan languages it will be useful to add some remarks drawn from the above quoted review of Tobler. He observes that the relative pronoun might come not only from the demonstrative, but also from the interrogative. This appears from Latin, Teutonic, and also from Greek, Zend, and Lithu-Slavonic: Tobler quotes,

among other examples, the German pronouns *welch*, *wer*, *was*, beside *der*, *das*, the English *which*, *who*, *what* beside *that*, and remarks that the Greek relatives *ὅπου*, *ὅποιός*, etc., are compounds, the second member of which is an interrogative. “This use,” he writes, “naturally can be explained only by the primitive paratactic construction,” that is to say, by assuming with Aufrecht (*Zeitschr. f. vgl. sprachforsch.*, i. 284) “that the relative sentence took its

We should like now to be able to discuss, in a manner <sup>157</sup> befitting the importance of the subject and the worth of the book, the *Syntaktische Forschungen* of Delbrück and Windisch,<sup>1</sup> a work which certainly deserves the foremost honours with respect to comparative syntax, in spite of the censures which have been passed upon it by some critics, ~~and~~ which we are going to notice. But the limits which partly the authors and partly the subject-matter itself have marked out for these learned and profound researches,<sup>2</sup> and the impossibility of following them without going into too minute considerations prevent us from treating of this work with that fullness which we could wish. We cannot, therefore, do more than set forth the fundamental ideas of the two learned philologists on the original force of the conjunctive and optative, and on the origin of secondary or dependent sentences. And these conclusions we find expressed as follows in the review cited of Thurot: "the <sup>158</sup> Indo-Germanic languages had a period in which men conversed only by means of independent sentences: co-ordination is anterior to subordination. Moreover affirmative sentences are anterior to negative and to interrogative sentences . . .

origin from contraction of an interrogative sentence with the relative reply."

<sup>1</sup> I. *Der gebrauch des conjunctivis und optativis im sanscrit und griechischen*, Halle, 1871: the chief merit of this important work belongs to Delbrück.—See the criticisms of Thurot and Bergaigne in the *Revue critique d'histoire et de littérature*, 6th year, 2nd semester, pp. 27-31, 129-34, and that of Holzman in the *Zeitschr. f. völkerpsychologie*, etc., viii. 40-57.

<sup>2</sup> Among the Aryan languages, Delbrück and Windisch (pp. 6-7) observe, only Sanscrit, Zend and

Greek exhibit a conjunctive and an optative quite distinct from each other: to these languages therefore must be limited the investigation into the use of these two moods. For personal reasons moreover the two authors excluded from their researches Zend, a lacuna which was speedily filled by Jolly with his valuable monograph *Ein kapitel vergleichender syntax: der conjunctiv und optativ und die nebensätze im zend und altpersischen in vergleich mit dem sanskrit und griechischen*, München, 1872.—See on this Holzman's remarks in the *Zeitschr. f. völkerpsychologie*, etc., viii. 57-62.

Lastly, the primitive signification of the moods should be seen more clearly in the independent affirmative sentences in which the verb is in the first person singular." These positions the authors think are strengthened by the observation "that the various uses of the conjunctive and the optative cannot be reduced to unity of meaning except by admitting that the primitive signification is 'willing' for the conjunctive, 'desire' for the optative, a signification which is found pure only in independent affirmative propositions in which the verb is the first person singular."<sup>1</sup> The

<sup>1</sup> "Les hypothèses de M. D.," writes Thurot (article cited), "me semble contestables à deux points de vue, d'abord il n'a pas tenu assez de compte des modifications que l'association des mots apporte à leur significations; ensuite il a confondu l'antériorité logique avec l'antériorité chronologique . . . . Si tous les mots conservaient leur sens propre et primitif dans toutes les constructions, il n'y aurait aucun moyen de se faire entendre. On en peut dire autant des formes grammaticales. Si l'optatif signifie proprement le vœu (ce que me paraît fort douteux), il perd cette signification et il la perd au point qu'elle ne peut pas même se présenter à l'esprit, quand il est employé au style indirect. Il en est de même du subjunctif; quand il signifie ce que M. D. appelle l'attente (*erwartung*), il ne signifie plus la volonté, et il est impossible de lui maintenir ce dernier sens." But even supposing to be very ancient these changes of the primitive meaning of the forms and the words which have taken place in the various constructions, we are nevertheless evidently forced to admit that in an

epoch still more ancient forms and words were used in speech in their original meaning and to examine in what manner and owing to what causes such meaning underwent a change. "Je ne saurais admettre davantage," continues the French critic, "qu'on ait parlé longtemps par propositions co-ordonnées uniquement, avant d'employer des propositions subordonnées. Quand la subordination existe dans la pensée, et en beaucoup de cas elle ne peut pas ne pas exister, par exemple pour les circonstances de temps et de lieu relativement à l'action qu'elles accompagnent, les relatifs adverbiaux qui expriment le temps et le lieu ne peuvent pas ne pas exprimer la subordination de la proposition qu'ils précèdent à la proposition principale." And in Bergaigue's article we read that Delbrück "dénature complètement le sens de certaines propositions subordonnées par le parti-pris de les traduire comme de simples co-ordonnées. Dans les propositions dont la subordination est réellement nécessaire, la dépendance a dû être sentie non-seulement dès l'époque védique à

criticisms of philologists on the value of such assertions may be various, but there can be no doubt of the diligence, the <sup>159</sup> scholarship, the acumen of the two distinguished investigators, and of the importance of the problems to the solution of which by means of their researches they have so

laquelle M. D. emprunte ses exemples, mais dès le premier jour où le langage a'est hasardé à rendre une seule pensée complexe au moyen de deux propositions." And here, perhaps, the two French philologists did not pay enough attention to the condition of the intellectual life in that epoch so remote and so different from our own that we can hardly figure to ourselves the slow development of the thought and the word in their reciprocal relations. Not all that appears to us original is certainly such, not merely with reference to ourselves, but also in reality: in many cases it might be nothing else than the result of a long evolution.—Thurot adds to the above quoted observations the following: 1st, that the optative, morphologically considered, is shown to be akin to the historic tenses; 2nd, that the meaning of 'desire' might perhaps be better derived from that of 'past' than vice versa; 3rd, that in fine the original force of the conjunctive and the optative might perhaps be sought with more success in the dependent than in the independent sentences. Bergaigne attempted to prove that the forms of the conjunctive and the optative could not, originally and in themselves, denote either 'willing' or 'desire.' "M. D. dit lui lui-même" (p. 17): "Un des points de vue les plus importants et qu'on ne doit pas

perdre de vue, c'est que le mouvement subjectif de la volonté ou du désir demeure toujours chez la même personne, et ne peut pas passer à une seconde ou à une troisième. C'est par là que les désidératifs par exemple se distinguent des modes pour le sens." Mais si *φέρομαι* signifiait par lui-même 'je désire porter,' *φέροis* signifierait aussi par lui-même 'tu désires porter' et non 'je désire que tu portes.' Même observation pour le subjonctif. Ainsi donc, si la seconde personne de ce mode signifie primitivement 'je veux que tu portes,' si la seconde personne de l'optatif signifie également primitivement 'je désire que tu portes,' il faut admettre que l'idée de la première personne y a été primitivement latente, et elle n'a pu l'être que dans une proposition latente elle-même 'je veux, je désire' d'où dépendait le subjonctif ou l'optatif." This may be said, according to Bergaigne, also of the first person. He observes, moreover, that from the ideas of 'wishing' and 'desire' could hardly be derived that of 'future time,' nor are the primitive senses of the two moods distinguished in the expression of the future and of prayer.—The Iranic researches of Jolly (see *ibid.*) produced results favourable to the theories of Delbrück and Windisch.

powerfully contributed, nor have they failed to win the praise even of linguistic students who profess ideas hardly in accordance with those which have been maintained in the work in question.<sup>1</sup>

Taking his stand upon the results of the above-mentioned researches, Jolly, in a monograph *Über die einfachste form*  
 160 *der hypotaxis im indogermanischen* (published in the 6th volume of the *Studien z. gr. u. lat. gramm.* edited by G. Curtius, pp. 215—416), describes first of all the various forms of subordination (*hypotaxis*) in the following order: I. the subordination is not expressed by any word intended for that purpose (simplest form of hypotaxis); II. the subordination is denoted by means of a conjunctive word in the secondary sentence, and such word is, 1st, a conjunctive pronoun *par excellence*, springing from an anaphoric or from an interrogative pronoun; 2ndly, a particle, itself also generally of pronominal origin; III. the subordination is indicated as well in the principal sentence as in the secondary, in so far as both contain a conjunctive word (correlation). These three forms of hypotaxis existed even in the oldest periods of the Aryan languages; probably they were developed in the order above noticed. Proceeding afterwards to examine specially the origin of the first and

<sup>1</sup> It was not until after the publication of the Italian edition of these "*Cenni storico-critici*" that we became acquainted with the second volume of the above mentioned *Syntaktische forschungen*, which forms the work of Delbrück, and is entitled *Altindische tempus-lehre* (Halle, 1876). The collections of examples and the observations of this illustrious investigator will undoubtedly be useful to the historico-comparative grammar of the Aryan languages, but his studies on the use of the tenses

in the oldest Indian should be supplemented by corresponding studies on the functions of the tense-forms in the other Indo-European languages, and especially in the Iranic family and in Greek, the aorist and the perfect of which will be in no small measure illustrated in their syntactical value, by these new investigations. As it is, since Delbrück's treatise is still limited to Old Indian alone, we must not, for the reasons which we have already given elsewhere, discuss it in this work.

simpler form, Jolly disagrees with Tobler, who (in the *Germania*, xvii. 257—94) assumed an ellipse of a conjunctive word, and endeavours to prove, by examples derived first from Teutonic, afterwards from the cognate languages, that, in such a case, there was a transition from parataxis to hypotaxis by means of a simple alteration of accent. Thus, without the hypothesis of the omission of any word, is explained the change of a co-ordinate into a subordinate construction.<sup>1</sup>

Since we have not to notice works on syntactical affinities between the Aryan and other stocks, because they either do not exist or have not come to our knowledge,<sup>2</sup> we bring to an end with the preceding remarks on subordinate constructions the first part of this work.

<sup>1</sup> Of Bergaigne's article entitled *Essai sur la construction grammaticale considérée dans son développement historique en sanskrit en grec en latin dans les langues romanes et dans les langues germaniques* (*Mémoires de la Société de linguistique de Paris*, iii. 1-51, 124-54, 169-86) we cannot speak, because we are still waiting for the concluding part of it.

<sup>2</sup> We must make an exception in

the case of the above quoted work of Holzweissig, in which there is a chapter (the fourth, pp. 39-62,) containing a discussion of the usage of the Semitic cases, comparing them with that of the Aryan, a chapter which the author concludes with the statement that there exists a remarkable affinity between the two great linguistic stocks in the difference between grammatical cases and local cases (see especially p. 62).

## PART II.

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### CHAPTER I.

#### **The Primitive Aryan Language.**

161 § 28. THE historical and critical study of the researches made within the last decade into the individual elements of the Aryan languages, from the simplest to the most compound, must be considered as not only necessary in itself to the scientific knowledge of such languages, but also as a preparation to that of the investigations which had for their object the Indo-European languages regarded in the complex whole of their structure. Without the analytical considerations of which the first part of this book consists we should have no solid basis for the synthetic considerations which will form the second part of it. The truth of this statement will appear indisputably proved when we have described and examined the principal results of the latest investigations with respect to the Indo-European languages considered first in their original unity, afterwards in their subsequent multiplicity. Starting with the former we shall in this chapter make some remarks on the fundamental Aryan language.

The phonological and morphological reconstruction of this language is, as every student of philology knows, the admirable work of Schleicher, who not only endeavoured in his *Compendium* to go back to the sounds and forms of the primitive and fundamental Aryan, but even had the



boldness to tell a story in this language.<sup>1</sup> It will be well <sup>162</sup> now to see how the latest researches, which we discussed in the three preceding chapters, have changed the idea which the illustrious philologist presented to us of the prehistoric language of the Aryans. And in the first place we will say that we feel ourselves led by the results of such studies to assume, with a probability not far from certainty, that Proto-Aryan had, at least in its latest periods, a greater variety of consonants than Schleicher has attributed to it:\* and in fact as we have seen it appears from indications neither few nor unimportant that, besides the purely guttural sound, the explosives *k*, *g* and *gh* had probably, even during the Indo-European linguistic unity, also another power, and that from the original *r* had been developed here and there, although perhaps not yet quite distinct from it, the *l*. On the other hand, in the list of the vowel sounds, it seems that Schleicher has erred in the direction of excess, in assigning to his Indo-Germanic mother-language also the second intensifications of the three primitive vowels. As regards the accent, which Schleicher did not consider a suitable subject for treatment in his *Compendium*, there are reasons for believing (although it cannot be rigorously demonstrated) that Proto-Aryan was governed by tonic laws akin to those of Indian and Teutonic, in other words by the logical principle, in such way that the accent strengthened by raising it that syllable, whether belonging to root or to affix, which represented the conception most im-

<sup>1</sup> Published in the *Beiträge, etc.*, v. 206 sqq.

\* [Mr. Douse (*Grimm's Law, &c.* See above note 4, pp. 16, 17), it may be remarked goes much farther than Schleicher. His 'holetnos' had only three mutes *k*, *t*, *p*, or in all not more than eight sounds—*a*, *k*, *t*, *p*, *r*, *s*, *w*, *y*. From the holetnic

*k*, *t*, *p*, the several Indo-European mute-systems were derived, partly by retaining these tenues unchanged, partly by weakening of two kinds, into (1) mediae, (2) aspiratae. Whether the aspiratae are rightly considered as *weakenings* is of course open to question.—Tr.]

portant for the speakers to emphasize, as that which made a greater impression on their mind. From Fick's *Vergleichendes Wörterbuch* we have learnt what roots, what stems are to be considered the inheritance of the original Indo-European among those which appear in the languages of that stock: we have learnt also how it is possible to go back to a few very simple radical elements, from which all the rest might have sprung by means of determinatives added at the end. And from a careful study of Fick's lexicon we might learn further how the immaterial senses of many roots have been developed from material meanings. Flexion, it is true, has not yet revealed to us, as far as we should like, its peculiar mysteries: but it seems no longer doubtful that its origin was much more various than has generally been thought up to quite recent times. It cannot be denied, without falling into hypotheses much worse founded, that one of the principles of flexion is agglutination, which can hardly be conceived without admitting an anterior isolating structure: it should not however be forgotten that Aryan had always a powerful tendency towards flexion and therefore a characteristic which, in every period of its development, could not but distinguish it from the isolating and the agglutinating languages which continued to be such. Another principle which must not be excluded from Indo-European morphology is symbolism: a principle the action of which fresh researches will probably show to be the cause of many facts which the hypotheses proposed up to the present time do not suffice to clear up. We are forced also to have recourse to the principle of differentiation and adaptation for the explanation of certain phenomena. The original functions of the several cases, though the veil under which they have been hidden has not yet been altogether torn away, seem to us less and less obscure, together with their various transformations in process of time. Lastly, the results of the most recent re-

searches on hypotaxis dispose us to believe it posterior to parataxis and derived in various ways from it. Such are the important additions and corrections which Schleicher's doctrine on the primitive and fundamental Aryan considered in its individual elements has received from the latest researches. But our exposition would be very incomplete if <sup>164</sup> we did not at least make mention of the general considerations on the scientific reconstruction of Aryan which may be read in Johann Schmidt's monograph *Die verwantschaftsverhältnisse der indogermanischen sprachen*,<sup>1</sup> with which we shall soon have to concern ourselves at greater length. There is certainly, the author observes, a series of words and forms which declare themselves to be undoubtedly Proto-Aryan. But of other lexical and grammatical elements it is no longer possible to discover the primitive form: in many cases the result of this labour can only be doubtful, because, according to the learned philologist the problem has not yet been solved, "in how many languages a word-form ought to be found in use to be rightly considered as belonging to the prehistoric language of the Aryans." Moreover of the very forms which have been or can be demonstrated to be Proto-Aryan we do not know the chronology: consequently we cannot affirm that two of them are contemporaneous. "The fundamental forms may have arisen in periods altogether distinct and there is nothing as yet to assure us that the fundamental form A was still unchanged when B arose, that the forms C and D of contemporaneous origin have also remained during an equal time unchanged, etc. When therefore we wish to write in the primitive language a sentence," or to join several words one to another (like Schleicher in his story), "it may easily happen that such a sentence, though every element in it may be in itself well re-constructed, may

<sup>1</sup> Weimar, 1872, pp. 28-31.

nevertheless, as a whole, be no better composed than the translation of a verse of the Gospels, the several words of which have been taken partly from the translation of Ulfilas, 165 partly from that of the so-called Tatian, partly from that of Luther, because a historical view into the primitive language is still altogether a desideratum."

But even admitting with J. Schmidt that the fundamental language of the Aryan stock considered in its entirety is as yet nothing else than "a scientific fiction," it is nevertheless certain, even in his view, that it is a powerful help to philological investigation, nor, in our opinion, can its value be denied as a revelation of the prehistoric civilisation of the Aryans, although certainly it is considerably diminished by the lack above noticed of chronological information with regard to the development of such fundamental language. On the other hand the science of the most ancient periods could derive no advantage from the reconstruction of Proto-Aryan, or, to put it better, of Proto-Aryan roots, stems and words, unless a real existence could be attributed to the reconstructed words. It appeared that there could be no doubt about such existence, especially after the publication of the great work of Adolphe Pictet.<sup>1</sup> Against this we find J. Schmidt not disposed to admit as altogether certain the reality of Proto-Aryan except on the understanding that "the origin of the human race from some few individuals can be proved."<sup>2</sup> And Sayce does not discern in the primitive Indo-European, reconstructed by science anything else than an ideal language.<sup>3</sup> We should not

<sup>1</sup> With regard to the fundamental language of the Aryans it will be well to read the reflections recently made by Bréal (*La langue indo-européenne, examen critique de quelques théories relatives à la langue mère indo-européenne*, in the *Journal des*

*savants*, October, 1876.)

<sup>2</sup> *Les origines indo-européennes ou les Aryas primitifs, essai de paléontologie linguistique*, Paris, 1859-63.

<sup>3</sup> *Ibid.*, pp. 29-30.

<sup>4</sup> *The Principles of Comparative Philology*, p. 126, ed. 2.

indeed know how to explain the existence of such numerous and intimate affinities as those which no one can deny between the Aryan languages, without admitting that they prove the common origin of such languages from a fundamental language, as we should not know to what cause to attribute the relations of resemblance which are seen between the Neo-Latin languages unless we traced them to the Latin which became changed into them. To suppose that several nations, related indeed to each other anthropologically and geographically, but nevertheless not constituting a single society, have formed, simply by reason of the supposed affinity, each of them its own language employing the various methods which we have just mentioned, agglutination, symbolism, differentiation and adaptation, so that there resulted languages so connected with each other as the Aryan languages, appears to us much less reasonable than the hypothesis of the descent of all of them from a common mother-language spoken in prehistoric times.

§ 29. We have elsewhere described the most important results of Pictet's researches on the subject of Proto-Aryan civilisation, as it is illustrated by the primitive language which we have discussed : we have noticed also the criticisms of A. Weber and A. Kuhn on the first volume of the work of the distinguished French scholar.<sup>1</sup> Here we will observe, that a work of this kind has been taken up afresh, more in the manner of a sketch than a complete treatise, by that learned investigator Fick.<sup>2</sup> And that he has arrived at conclusions not very different from those of Pictet is a fact that certainly calls for consideration, as one which ought to increase not a little our faith in the results of such researches. Fick agrees with Pictet

<sup>1</sup> See Pezzi's *Introduction, etc., Indogermanen Europas*, Göttingen, 1873, pp. 266-85.

<sup>2</sup> *Die ehemalige spracheinheit der*

also in discovering indications of monotheistic thought in the midst of the naturalism, rich in deities, of the primitive Aryan people.

But in the last decade there has been a notable disagreement between the illustrious author of the treatise on *Les origines indo-européennes* and certain philologists in the quest after the fatherland of the Aryans.<sup>1</sup> While Pictet  
167 with the majority of the scholars of our time taught that the Aryan people, as yet undivided, occupied in prehistoric times an Asiatic district, of which the Bactrian district may be regarded as the centre, Benfey<sup>2</sup> and Geiger<sup>3</sup> with some other scientific men sought in Europe the home of the primitive Indo-Europeans. Moreover that most learned Iranic scholar, Spiegel, does not deny credit to the possibility of the European origin of the Aryan people.<sup>4</sup> The arguments adduced to support this new hypothesis are derived partly from anthropology (and with these we are not concerned), partly from the science of language: to these last belongs that which Benfey discovers in the lack of names common to all the families of Aryan languages for the great wild animals of Asia, for example the lion, which, as is well known, existed in Greece even in historic times.<sup>5</sup>

<sup>1</sup> Höfer, *Die heimat des indo-germanischen urvolkes* (in the *Zeitschr. f. vgl. sprachforsch.*, xx. 379-84).

<sup>2</sup> See the preface to Fick's *Wörterbuch der indo-germanischen grundsprache* (Göttingen, 1868) and the *Geschichte der sprachwissenschaft*, etc., pp. 599-600.

<sup>3</sup> *Zur entwicklungsgeschichte der menschheit*, Stuttgart, 1871, pp. 113-50 (quoted by Höfer in the monograph noticed).

<sup>4</sup> *Eränische alterthumskunde*, i. Leipzig, 1871, pp. 426 sqq. (quoted by Höfer, *ibid.*).

<sup>5</sup> Pauli (*Die benennung des löwen bei den Indogermanen, ein beitrag zur lösung der streitfrage über die heimath des indogermanischen urvolkes*, Münden, 1873) subjects to examination this argument, and rejects it as devoid of force, arriving at other conclusions from the study of the names by which we see the lion denoted in the Indo-European languages. His work has been made the subject of critical reflections by Wolzogen, according to whom the various denominations of the lion in the neighbourhood of the Aryan peoples cannot furnish any

But the Proto-Aryan names of such animals might well have been lost, especially in countries so distant and so different from those in which the fatherland of the Aryans is generally imagined to be. To the merely negative and therefore very weak argument of Benfey may be opposed the certain and important fact that the Asiatic forms of the Aryan languages are generally much closer to the primitive type than the European forms: this fact, which finds its counterpart also in comparative mythology,<sup>1</sup> is in <sup>168</sup> our opinion a very weighty indication that the Aryans migrated from Asia into Europe, not from Europe into Asia. We are well aware that, in order to combat this formidable argument, it has been observed that the archaic form of the Vedic is not a sufficient proof in favour of the Asiatic origin, because it must be regarded as a sacerdotal dialect. But the truth is that we could not reconcile this statement with the results of the latest linguistic studies of the Vedas: these studies have put in a clear light how in those very ancient records of the thought and the word of the Indo-Europeans there are still seen not unfrequently traces of the natural processes by which the languages of Aryan stock became perfected. Nor is it of any use to object that we might perhaps discover not less numerous, not less important vestiges of antiquity in Aryan languages of Europe, for example in Greek, if records of these had reached us belonging to epochs not much later than the period to which the Vedas are referred. And in fact, every language exhibits, especially in its phonetic and its formal portion, certain characteristics so deeply marked that time cannot either cancel or change them as much as it would be necessary to suppose in order to admit the hypothesis

certain index to the country inhabited by the Indo-Europeans before their division (*Zeitschr. f. völkerpsychologie*, etc., viii. 206-15).

<sup>1</sup> Wolzogen, *Der ursitz der Indogermanen* (*Zeitschr. f. völkerpsychologie*, etc., viii. 1-14).

above mentioned. And therefore, in our opinion, the validity remains unshaken of the argument which, in favour of the origin of the Indo-Europeans from Asia, was drawn from the stamp of antiquity which we perceive in the Indo-Iranic languages.

§ 30. Among the reasons adduced for maintaining the descent of the Aryans from a people which in prehistoric times had its home in Asia, we find also the primitive affinity between Proto-Aryan and Proto-Semitic. True philology however, far from seeking in such affinity an indication which it might use with safety in its investigations, is still bound to subject to accurate and impartial examination, the results of the investigations instituted into the original relations between the two stocks of language. And from this examination it cannot but appear that, up to the present time, the science of language has not discovered such indications of kinship between Aryan and Semitic as are sufficient, by reason of their number and especially by reason of their weight, to render possible a strict demonstration of it. Morphological proofs, which would certainly be the strongest of all, have not been hitherto alleged in such abundance and of such a kind as to convince those who are least inclined to the hypotheses. The success of the comparisons between Aryan roots and Semitic roots appears, it is true, to have been greater: but with respect to the worth of these comparisons several considerations of no slight importance must be urged, which seem to be of a nature to diminish rather than to increase it. First of all it may be observed that the simple radical affinity leads us inevitably to assume with M. Müller<sup>1</sup> that the fundamental Aryo-Semitic was an isolating language: and in fact, if it had had suffixes more or less closely connected with the roots,

<sup>1</sup> *On the stratification of language*, London, 1868, p. 32 sqq.



we should be bound to find traces of such elements identical to a great extent in the two stocks of language in question. Now that an isolating language can possibly be changed into the two most conspicuous classes of the inflexional languages is, as we have remarked above,<sup>1</sup> a hypothesis rejected by several philologists, among whom it will suffice to mention Renan. Secondly, owing to the tri-consonantism of the Semitic roots, we are driven for the most part, before comparing them with the Indo-European roots, to attempt to reduce them to a simpler form: that this reduction may give rise to errors who would dare to deny? In the third place, the agreement of two 17 languages together in the form and the meaning of two roots will always be of less importance than their agreement in two suffixes of stem-formation or word-formation, because in this last case there is less danger of a simply fortuitous conformity. Lastly such comparisons assuredly cannot remove altogether that grave objection which is drawn from the various meaning of the vowel sounds in the Aryan and the Semitic roots.<sup>2</sup> When to these considerations with respect to the formal and the material elements of

<sup>1</sup> See p. 41, and especially pp. 125-9.

<sup>2</sup> In the phonetic structure of the Aryan and the Semitic stock Lignana discerns important indications of primitive divergence, and notices them in the treatise quoted *Le trasformazione delle specie*, etc., p. 14. "The scale of the Semitic phonetism presupposes a different sensibility in the vocal organ from that of the Indo-European peoples, and one which coincides with, so to speak, the physiological formation of the family of the Semitic peoples. And this observation appears to me not without importance, because in the system of nature as the physio-

logical genesis of the peoples must necessarily precede that of the languages it is clear, that from this point the continuity of the linguistic development of the two types becomes more than ever problematical. But however the matter stands, I wish to affirm this, and I do not think it can be contradicted, I mean, that the Semitic sounds cannot be brought into the orbit of the phonetic changes of the Indo-European languages." It appears, however, that of late years Lignana's opinions on the Aryo-Semitic bond have been slightly modified.

Aryan and Semitic is added the observations made by F. Müller,<sup>1</sup> (and before him by Renan<sup>2</sup>) on the character of changeability which profoundly distinguishes the Aryan from the Semitic languages, revealing two opposing tendencies, it will be clearly evident what ought to be the conclusion of our discussion with regard to the difficult problem of the relations between these two most noble forms of human speech. To make the solution less difficult we consider it absolutely necessary to have completed also with regard to the Semitic languages that historical and comparative labour which has been undertaken for the Indo-European languages: in order to compare by a really scientific method the Aryan with the Semitic word, it is certainly necessary, in our opinion, first to reconstruct Proto-Semitic as Proto-Aryan has been reconstructed. And in all probability we shall not be able to exclude from this comparison the oldest Egyptian, which, according to Steinthal,<sup>3</sup> exhibits the beginnings of flexion in the  
 171 languages in which form is rightly conceived and expressed. —After what we have said about the original connexion of Aryan with Semitic it is hardly necessary to observe that, if no arguments have yet been brought forward for it sufficient for the purposes of a rigorous demonstration, a far less value in every way must be assigned to those supposed indications of prehistoric affinity between the Aryan and other linguistic stocks, which do not even belong to the class of languages commonly called inflexional.

<sup>1</sup> *Indogermanisch und semitisch comparé des langues sémitiques*,  
 etc. Paris, 1855, pp. 409-10.

<sup>2</sup> *Histoire générale et système* <sup>3</sup> *Charakteristik*, etc., p. 327 sqq.

## CHAPTER II.

### The Aryan Languages.

§ 31. From the one primitive fundamental form we pass <sup>172</sup> on to manifold later forms, which have arisen from various changes of the former, according to the doctrine which prevails in modern philology and which we have just seen to be much more probable than the contrary theory. Between that one form and these manifold forms of Aryan speech what are the relations existing as far as concerns the method and the order of their development? Besides the bond of kinship which joins together all the families of the Indo-European languages as being all descended from the prehistoric Aryan, are there bonds which unite more closely family to family? And, if there are, in what way ought we to conceive of the division and the subdivisions of the mother-language of all the European languages? This is the last problem to which we shall invite the attention of our readers.

Its solution, one most important for philology and history, has been attempted, even before the last decade, by learned investigators, among whom it will suffice to mention Schleicher and Lottner. The former by a series of comparative researches, for the most part in a strict sense grammatical (that is to say, phonological and morphological) the results of which he published in various works,<sup>1</sup> was led to divide the Aryan stock into two great sections, the first of which we will call Indo-Irano-Graeco-Italo-Keltic, the <sup>173</sup>

<sup>1</sup> *Kurzer abriß der geschichte der slavischen sprache* (Beiträge, etc., i. 1-27).—*Die stellung des celtischen im indogermanischen sprach-* *stamme* (ibid., i. 437-48).—*Die deutsche sprache*, etc., pp. 80-2 (edition of 1869).—*Compendium*, etc. pp. 5-9.

second Lithu-Slavo-Teutonic. The first is subdivided into Indo-Iranic (which Schleicher calls 'Aryan,' understanding the word in a narrower sense than that in which we use it) and Graeco-Italo-Keltic: the Indo-Iranic into the Indian and the Iranian family; the Graeco-Italo-Keltic into the Greek (with which he connects Albanian) and the Italo-Keltic family; this last into the Italic and the Keltic family. Similarly, the second section is subdivided into Slavo-Lithuanian and Teutonic; the Slavo-Lithuanian into the Slavonic and the Lithuanian family.—The second of the two philologists mentioned, Lottner,<sup>1</sup> also sees in the class of the Aryan languages, to begin with, two sections quite distinct from each other, the Asiatic and the European.<sup>2</sup> From the first are derived the Indian and the Iranian family. From the second was divided off primarily, as it seems, Greek (or Helleno-Phrygian): the remainder might have been split into two portions, a south-western and a northern; the first might have given rise to Keltic and Italic; the second to German and to Slavo-Lithuanian, which was afterwards subdivided into two families of language.<sup>3</sup>

<sup>1</sup> *Über die Stellung der Italer innerhalb des indo-europäischen Stammes* (*Zeitschr. f. vgl. Sprachforsch.*, vii. 18-49, 161-93).—*Celtisch-italisch* (*Beiträge*, etc., ii. 309-21.)

<sup>2</sup> The characteristics which, according to this author, distinguish the European Aryan from the Asiatic Aryan are the following: 1st, the change of *r* to *l*, which has taken place in a large number of material elements and formal elements; 2nd, the loss of aspiration, a phenomenon common to the Aryan languages of Europe in certain words; 3rd, the well-marked meaning which in these languages has been assumed by several prepositions which do not show themselves endowed with a

like force in Sanscrit; 4th, the prehistoric civilisation of the European Aryans, as it appears to us from a series of words found in all their families of languages.—The division of Aryan into Asiatic and European is favoured also by Curtius's investigations into the sounds which succeeded the primitive *a* (*Über die Spaltung des a-lautes*, etc., in the *Sitzungsberichte der K. sächs. Gesellschaft. d. wissenschaft.*, 1864, p. 9, sqq.).

<sup>3</sup> By grammatical and lexical observations Lottner endeavours to prove that the Italic family shows itself to be akin not so much to the Greek as to the Northern languages of the European section. He after-

In the division of Aryan into Asiatic and European<sup>174</sup> Scherer, Fick, and other philologists agree with Lottner. Scherer in the introduction to his work *Zur geschichte der deutschen sprache* (p. 4) declares his opinion that this division of Aryan into Eastern and Western, as he expresses himself, is proved. Fick, after having attempted in his *Vergleichendes wörterbuch der indogermanischen sprachen*<sup>1</sup> to give a complete lexical demonstration of this doctrine, defended it against the objections of J. Schmidt, of whom we shall speak directly, in the book entitled *Die ehemalige spracheinheit der Indogermanen Europas*,<sup>2</sup> which (as well as the preceding) we have already had occasion to touch upon. The principal arguments which Fick adduced in favour of the division above mentioned of Aryan are three: 1st, the development of *e* from original *a*, a development which

wards proceeds to demonstrate the same position with respect to Keltic. He finds his arguments especially on the structure of the verb in the languages alluded to. The history of European Aryan after the separation from it of Greek is thus described by Lottner: "the old tonic law gradually loses all force; in conjugation the augment disappears, and is compensated for in the imperfect by means of a species of internal or final augment; . . . the conjunction gives up its ancient field to the potential invader: the middle begins to disappear entirely; . . . on the other hand the tenth class becomes a source of prolific new formations."

With respect to the relations of Keltic with the other Aryan languages see also the very weighty opinion of Ebel (*Celtisch, griechisch, lateinisch*, in the *Beiträge*, etc., i. 429-37.—*Die stellung des celt-*

*ischen*, *ibid.*, ii. 137-94); according to this illustrious philologist Keltic would occupy an intermediate position between Teutonic and Italic, but shares more with the former than with the latter the characteristics belonging to the innermost part of the language.

<sup>1</sup> See the second and third sections, in which are collected the words belonging to the Indo-Iranic linguistic unity and the European linguistic unity: see also pp. 1045-56 of the second edition.

<sup>2</sup> On this work see the reflections of J. Schmidt (in the *Jenaer literaturzeitung*, 1874, pp. 201-4) and of Havet (in the *Revue critique d'histoire et de littérature*, 8th year, 1st semester, pp. 145-50, 239-40). See also Jolly, *Noch einmal der stammbaum der indogermanischen sprachen* (*Zeitschrift. f. völkerpsychologie*, etc., viii. 190-205).

is common to all the Aryan languages of Europe and distinguishes them from the Indo-Iranic;<sup>1</sup> 2nd, the change in not a few cases of Proto-Aryan *r* into *l* in the Aryan languages of Europe;<sup>2</sup> 3rd, new formations of words and perhaps also of roots common to these and foreign to the Indo-Iranic languages: words, from which we may clearly discern a difference between the civilisation of the primitive Aryans while yet undivided and that of the European Aryans as constituting a single nation; because this second

<sup>1</sup> See above, p. 20, note 1.—Havet (ibid.) regards as still more considerable than it appears to Fick the number of instances where European *e* comes from an original *a*. This argument of Fick's has lately been subjected to a severe examination by J. Schmidt (*Was beweist das e europäischen sprachen für die annahme einer einheitlichen europäischen grundsprache?* in the *Zeitschr. f. vgl. sprachforsch.*, xxiii. 333-75). Availing himself of the results of Hübschmann's latest studies on Armenian (which will be noticed in the following paragraph) Schmidt begins by noticing that Armenian exhibits *e* and *ei* in place of original *a*, *ai* in the same words in which the Aryan languages of Europe also show *e*, *ei*. Further the *e* in question might have been developed not in a primitive and fundamental European language, but in fact on one soil or several spots of the European region, and hence have been broadly propagated by degrees. And that this is the most probable hypothesis appears from the fact, admitted also by Fick, that the *e* became increasingly frequent in each of the several Aryan languages of Europe in the periods which followed the division of Proto-

European. Then Schmidt proceeds to a careful examination of a large number of European words which contain an *e* = orig. *a* in radical or suffix syllables and comes to the two following conclusions: 1st, side by side with the forms in *e* of not a few European words have been sporadically preserved also in European languages the old forms in *a*; 2nd, even in those words which, in all the Aryan languages of Europe exhibit the original *a* changed, the degree of change was so various that the changed vowel in the Prussian of the middle of the 16th century was still more near to the original *a* than to the corresponding changed vowel of Attic, older by 2000 years. Hence, according to Schmidt, the European *e* = orig. *a* is by no means a substantial argument in favour of the existence of a fundamental European language, whence the individual Aryan languages of Europe might to have sprung.

<sup>2</sup> The force of this argument is completely destroyed or at all events greatly reduced by the researches of Heymann, who, as has been said on pp. 22-25, maintained the claims of *l* to be Proto-Aryan.

civilisation reveals itself to us in almost all its elements superior to the first, especially in the advanced agriculture. To these main arguments Fick subjoins certain others, among which it is well not to pass over altogether the formation of a class of presents with the suffix *-ta-*, which does not belong in this function to Indo-Iranic, and the European *k<sup>v</sup>* as opposed to the Asiatic *k*.<sup>1</sup> From these facts our author draws the conclusion that the modern Aryan languages and the modern Aryan nations of Europe came from one language and a single nation. This statement must not however be understood in too strict a sense; the doctrine of which Fick made himself the champion does not exclude the existence of prehistoric differences; the unity of the primitive and fundamental Aryan language of Europe consisted especially in certain new linguistic tendencies which came to prevail in the combination of the Aryans established in this part of the world: the unity of the primitive and fundamental Aryan nation of Europe was formed by the unity of the language. Nor would it be of any use to object that, in so ancient an epoch, the Aryans of Europe could hardly have been united together into a single nation, as it seems that the formation of so great a unity implies a stage of civilisation superior to any that can be attributed to them at such an epoch: this objection cannot do away <sup>176</sup> with the linguistic arguments above quoted and comes into collision with history, which furnishes evidence that the Indo-Europeans, even in very remote ages, were not wanting in the capacity for combining themselves into great nations by the bond of a common language. From the denominations of the soil, the plants and the animals

<sup>1</sup> See the first two paragraphs of this book, from which it is plain that the problem of the Proto-Aryan *k* has not yet been solved in a perfectly satisfactory manner. Whence

it is clear what importance should be assigned to this last proof alleged by Fick in defence of his European linguistic unity.

observed in all the families of Aryan languages of Europe it follows that in its western portion there was settled the great nation in question: afterwards some of the European Aryans moved towards the plains northward, the others towards the mountains southward. The former were divided into western and eastern, or into Teutonic (in the widest sense of the word) and Slavo-Lithuanian: the latter were divided in like manner, and these were the origin of Kelts and Graeco-Italians who were afterwards subdivided like the Slavo-Lithuanians. The basis on which Fick founds these divisions of the primitive and fundamental Aryan of Europe consists in the results of the lexical investigations by others and himself: the affinity, for instance, which manifests itself in the common store of words of the Hellenic and the Italic dialects, distinguishing these and those from the Lithu-Slavo-Teutonic dialects between which a like affinity displays itself, is the reason which induces Fick to establish a Graeco-Italic linguistic unity, opposing it to the Lithu-Slavo-Teutonic. Now it should be observed and it has been observed that this basis is certainly not as solid as might reasonably be wished. The material portion of a language is connected with its intimate nature much less closely than the formal part: while grammar has been called by M. Müller the blood and soul of language, another philologist asserted that "le vocabulaire d'une langue est dans une certaine mesure en dehors de cette langue." The idea that in the comparisons between language and language the lexicon has an absolutely less importance than the grammar, a value insufficient in itself to prove with scientific strictness the original affinity of two languages, an idea already brought  
 177 into prominence by the rare genius of Hervas, has become one of the fundamental principles of modern philology.<sup>1</sup>

<sup>1</sup> See in the well-known lectures of M. Müller, the second of the first series, especially also the already quoted *Grundriss der Sprachwissenschaft* of F. Müller, i. 57-61.



To the general consideration that a very important influence may be exercised upon the inheritance of words belonging to any language by certain facts altogether different from the generative powers of the language, among which it may suffice to mention as instances the conquests, the trade, the religion, we must add an observation which in an especial manner concerns the Indo-European languages, in other words we must recall the attention of our readers to the strikingly various antiquity of the most ancient records which the several languages of this stock offer to the investigations of the philologist. Between the Vedic hymns, which, at all events in part, carry us back according to learned Indian scholars, to 1500 years before the present era, and the first written examples which have come down to us of the Lithuanian, belonging to the 16th century after Christ there is an enormous interval of 3000 years: between these limits of time, so far from one another, appear at various distances the oldest surviving records of Iranic, Greek, Italic, Teutonic, Keltic and Slavonic. Nor have we only to consider the antiquity, so various as it is, of such documents, but also their various extent and content. Many words which are no longer found in the most ancient remains of a family of Aryan languages possibly still belonged to it in the epoch to which belong the first records, much more ancient, which have come down to us of another family which exhibits in them those words: hence lexical comparison by itself does not give us the right to affirm that, in the same age, the first possessed a number of Proto-Aryan words remarkably less than the second. Hence it is seen <sup>178</sup> that we can hardly derive from this source alone an exact notion of the degree of originality which belongs to one family of Indo-European languages and of the relation existing between it and the others. These considerations will suffice, we hope, to enable the reader rightly to understand what is the value of lexical arguments, taken by them-

selves, and not supported by other more solid proofs, in the doctrine of the genealogical tree of the Aryan languages and in the contrary doctrine which it is now our business to discuss.

§ 32. That between the Indo-European languages are not found such and so many special relations of affinity as to induce us to believe, as those who follow the theory just described think, that they have come from divisions of the primitive Aryan into two fundamental languages, which, by means of successive subdivisions, might have given origin to the several languages; that this statement has not been demonstrated, and is probably not demonstrable, as not being consistent with fact, is an opinion expressed by M. Müller<sup>1</sup> and by J. Schmidt, and maintained by the latter with the strongest arguments that could be adduced in the monograph already quoted, *Die verwantschaftsverhältnisse der indogermanischen sprachen*. Combining with the results of others' researches those of his own, combining lexical with grammatical arguments so that the one kind and the other conspire to the same end, employing with uncommon sagacity all the means which could be used in this investigation, drawing conclusions with rare independence of thought and setting forth his conclusions with order, precision and clearness, he has given us in this little treatise of sixty-eight pages the most remarkable work that has been completed on the relations of affinity between the languages of  
179 Aryan stock. The unwonted daring of the fundamental idea, the formidable power of the argumentation drew upon this little book the attention of philologists, several of whom subjected to examination and condemned its conclusions.<sup>2</sup>

<sup>1</sup> *Über die resultate der sprachwissenschaft*, Strassburg - London, 1872, pp. 18-21: this essay was also published in English in the *Chips*, etc., iv. 210-50.

<sup>2</sup> First among these we notice Fick (*Die ehemalige spracheinheit*, etc.); next Jolly (*Über den stammbaum der indogermanischen sprachen* in the *Zeitsch. f. völkerpsychologie*,

which were vigorously defended by the author.<sup>1</sup> We will now proceed to describe summarily the most important results of J. Schmidt's investigations, noticing at the same time the principal objections advanced against him and the replies with which he met them.

Schmidt's investigation starts from the proved relations of close affinity existing between Slavo-Lithuanian and Teutonic, and proceeds rapidly to observe other relations, themselves also close, between Slavo-Lithuanian and Indo-Iranic: relations which are readily conceived to be possible on geographical grounds<sup>2</sup> and were before noticed by Bopp. In confirmation of this statement, which is in fact a fundamental one for his work, Schmidt lays special stress upon the agreement of Slavo-Lithuanian with Indo-Iranic in their representing in an appreciable number of words the Proto-Aryan guttural explosive sounds by spirant sounds (Slavonic *s*, Lithuanian *sz* = Indo-Iranic *ç* = Proto-Aryan *k*, etc.): a phenomenon which we have discussed at considerable length in the first two paragraphs of this book and which is without doubt the strongest of the arguments<sup>180</sup> which our author uses in this treatise. And indeed it is impossible, especially after the examples adduced by Ascoli, to consider this correspondence of sounds as a sporadic fact of slight importance, nor can we discover in it only either a simply fortuitous coincidence or an indication of particular

etc., viii. 15-39 and 190-205, where he quotes also the opinions of G. Curtius and Whitney as opposed to J. Schmidt's theory); to which we should add L. Meyer (*Göttingische, gelehrte anzeigen*, 1873, pp. 173-84) and Havet (*Revue critique d'histoire et de littérature*, 6th year, 2nd semester, pp. 321-4).

<sup>1</sup> See the reflections of Schmidt just quoted on Fick's book *Die ehemalige spracheinheit*, etc. (*Jenaer*

*literaturzeitung*, 1874, pp. 201-4) and Schmidt's work of which we have already spoken, *Zur geschichte des indogermanischen vokalismus*, ii. 183 sqq.

<sup>2</sup> Towards the south-east the Slaves even in historic times had boundaries in common with the their Iranians, for such were, according to Müllenhoff's researches, the Scythians of the Pontus.

affinity between Slavo-Lithuanian and Indo-Iranic. The first hypothesis, observes Schmidt, cannot be admitted without "being placed outside the pale of scientific discussion:" because either we have recourse to such suppositions in every case, and then every basis vanishes for any genealogical division of languages founded on the greater or less agreement of some of them with one another; or such suppositions are not thought always to be valid, and in that case who shall decide when they are and when they are not? We must therefore return to the second hypothesis, which represents Slavo-Lithuanian and Indo-Iranic as united together by tolerably close bonds. To the grammatical arguments, foremost among which is the phonological argument already mentioned, Schmidt adds the comparison of the words which belong exclusively to Slavo-Lithuanian and Indo-Iranic<sup>1</sup> with those which appear common only to Indo-Iranic and Teutonic,<sup>2</sup> whence it results that the former are to the latter as 61 to 15, or nearly as 4 to 1; the comparison of the words found only in Slavo-Lithuanian and Teutonic with those which are exhibited only by Teutonic and Indo-Iranic shows that those are to these as 143 to 15, or nearly as 10 to 1: Slavo-Lithuanian therefore which proves itself four times as rich in Indo-Iranic elements as Teutonic<sup>3</sup> and ten times as rich in

<sup>1</sup> To the lexical analogies noticed by Schmidt between these two sections of Aryan languages belongs the fact that the Proto-Aryan *Djāus* was lost only in them.

<sup>2</sup> See in the appendix to Schmidt's monograph the first four catalogues of words (pp. 36-52).

<sup>3</sup> After the observations of Fick, who believed that he discovered between the words exclusively Slavo-Lithuano-Indo-Iranic and the Germano-Indo-Iranic the ratio of 65-70

to 82 (in complete contradiction of the above mentioned result) Schmidt, after making fresh researches, established the ratio of 76 to 32 between the former and the latter languages, in place of that previously stated, of 61 to 15. The new ratio does not at all change the conclusion at which Schmidt arrived, that is the intermediate position of Slavo-Lithuanian between Teutonic and Indo-Iranic. Moreover it may be noted, in favour of

Teutonic elements as Indo-Iranic, is, according to the<sup>181</sup> author's expression, "the intermediate organic member" between Teutonic and Indo-Iranic. Now, if Slavo-Lithuanian is indissolubly connected, as appears from grammatical and lexical facts, in a special manner both with Teutonic and with Indo-Iranic, that is to say both with a form of European Aryan and with Asiatic Aryan; if the characteristics of the first and the second and those of Teutonic are fused together, so to speak, in Slavo-Lithuanian; if all this is true, as Schmidt thinks it is without doubt, the obvious result is that we cannot admit either a fundamental Slavo-Lithuano-Teutonic language (which would exclude Indo-Iranic), nor a fundamental Indo-Irano-Lithu-Slavonic language (to which Teutonic would be foreign), nor a fundamental European language (because Lithu-Slavonic, philologically considered, does not belong at all more to the Aryan languages of Europe than to those of Asia), nor, lastly, a fundamental Indo-Irano-Lithu-Slavo-Teutonic language (and in fact there are between the Slavonic, Lithuanian, Teutonic and the other languages of the European Aryans certain common characteristics owing to which we may not separate thus the former from the latter). So vanishes the boundary line drawn between the Aryan languages of northern Europe and those of Asia. Let us see now whether there are well defined boundaries between these and the Aryan languages of the southern part of Europe. Between the grammatical structure of Greek and that of<sup>182</sup> Indo-Iranic there are, especially in conjugation, relations more numerous and more important than between the Asiatic Aryan and the Italo-Keltic languages:<sup>1</sup> the lexicon further

Schmidt, that the oldest Teutonic documents go back to a much more remote period than the Slavonic, and especially the Lithuanian. For the rest, we know by this time that it is not advisable to assign an un-

limited value to lexical comparisons.

<sup>1</sup> On this argument see also Delbrück and Windisch *Syntactische forschungen*, etc. i. 102-4, and Jolly, *Ein kapitel vergleichender syntax*, etc., pp. 117-27. — It would be

offers 99 word-forms exclusively Graeco-Indo-Iranic, and only 20 Italo-Indo-Iranic (so that the former are to the latter almost exactly as 5 to 1).<sup>1</sup> That between Greek and Italic there is a special affinity could hardly be doubted after the proofs brought forward by other philologists. Greek therefore is closely connected both with Indo-Iranic and with Italic, in other words it is the intermediate organic member between the former and the latter. There is not therefore a fundamental Graeco-Italo-Keltic language (as appears from the relations observed between Greek and Asiatic Aryan), nor a fundamental Indo-Irano-Greek language (and this results from the relations perceived between Greek and the Italo-Keltic languages): the hypothesis then of a fundamental European language is, a second time, shown to be contrary to facts. From the results of the researches prosecuted by his predecessors J. Schmidt concludes that Italic and Keltic themselves also stand as intermediate organic members between Greek and Teutono-Lithu-Slavonic. Hence, the author concludes, in place of the supposed fundamental languages we have an uninterrupted series of languages by which we pass gradually from eastern Asiatic Aryan to the European Aryan of the west.<sup>2</sup> As a

of little use to observe with Fick against Schmidt that certain characteristics, common exclusively to the Indo-Iranic and the Greek verb (e.g. the augment, the reduplication of several aorists) may have been lost in the other European languages: because, in the first place, such an observation would be more to the point if the question concerned words, while as it is we are talking only of forms; 2ndly, we should always be left to seek the reason why this loss should have taken place in all the European languages except Greek, if we must not have recourse to chance,

a supposition the consequences of which we have just noticed.

<sup>1</sup> According to Fick the ratio between the former and the latter would be, on the contrary, 108 to 65, that is, less than 2 to 1. It must be added, observes Fick, that the oldest remains of Greek are greatly anterior to those of Italic, and that the latter is much less rich in words.

<sup>2</sup> From the various formation of the infinitives an attempt has been made to raise an objection to Schmidt's doctrine: but, to say the truth, it would not be an argument very favourable to the con-

whole the Indo-European languages diverged from the

trary theory either. See Jolly, *Geschichte des infinitivs*, etc., pp. 271-83.— We think much more weight is due to Fick's observation that, if Schmidt's doctrine were consistent with truth, it would be hardly intelligible that we do not find forms of Aryan languages really intermediate between Asiatic and European Aryan. Fick, who, as we have just noticed, does not sufficiently appreciate the arguments of his opponent, denies that Slavo-Lithuanian and Greek can be considered as intermediate between Indo-Iranic and Teutonic, Italic, Keltic, observing further that not only Lithu-Slavonic and Hellenic possess in no less measure than any other Aryan language of Europe words belonging to the fundamental European Aryan, but also the development of the sounds *l* and *e* is greater in Slavonic and Greek than in the other languages of the European section, of which we have seen that, according to Fick, such development is a characteristic of great importance. He therefore proceeds to investigate whether other languages can be found which closely unite the Aryan of Asia with the European. Such languages would seem, for geographical reasons, to be necessarily presented to us towards the north by Scythians and Sauromatians, towards the south by Phrygians and Thracians. But, as far as we know, the first spoke a language purely Iranian, the second were Europeans even in their languages. To this observation Schmidt replies that the last word has not yet been spoken on such languages, nor

has the possibility been excluded that other languages, which have disappeared without leaving traces of themselves, stood, as Fick insists, between the Asiatic Aryan and the European. Not only in the sphere of languages, we add, but in the whole world how many intermediate species have not been lost! It is well to observe meanwhile that Schmidt's doctrine has just been confirmed by Hübschmann's studies in Armenian (*Über die Stellung des armenischen im Kreise der indo-germanischen Sprachen*, in the *Zeitschr. f. vgl. Sprachforsch.*, xxiii. 5-49). The phonological and morphological analysis of Armenian induced Hübschmann to conclude that it stands intermediate between Iranian and Slavo-Lithuanian.

The attempt has been made to oppose to Schmidt's theory also historical arguments, against which he defended it with the observation that "history in no place shows an unforeseen and permanent severance of continuity between the various parts of one and the same people which previously had always had a single language, but, on the contrary, everywhere constantly increasing differentiations ("Differenzierungen") of dialects within the limits of a language the continuity of which remains in no way interrupted." If there were really severances, we are bound to believe these to have been preceded by dialectic distinctions: that appears, according to our author, from the history of the Teutonic, the Lithuanian, the Indo-Iranic languages, the Greek dialects and the Neo-Latin languages.

primitive type in proportion to their distance from the east : two Aryan languages bordering upon one another have  
 184 always some feature common to them alone. There were not at first well defined boundaries between language and language, in the field of the Aryan languages: two forms of the primitive Indo-European, however great was the interval between them, were united by intermediate forms without interruption. Later this complete continuity was destroyed by the mastery which, for reasons of various nature, not unfrequently one Aryan dialect gained over other cognate dialects which became lost. From what we have said it is plainly evident that Schmidt's doctrine of the relations between the Aryan languages has not, like that of Schleicher, Lottner and Fick, a genealogical, but in fact a geographical character: its symbol cannot be a tree representing the supposed successive divisions of the Indo-European stock, but rather a "wave which spreads in concentric circles ever thinner in proportion to their distance from the centre," or even "an oblique plane inclined from Sanscrit to Keltic in an uninterrupted line."<sup>1</sup>

Such is J. Schmidt's doctrine with regard to the affinity existing between the languages of Aryan stock: such the gravest objections which have been raised against it, and the answers of the author. From the critical exposition which we have given of them, although in a very compendious form as befits this book, the result appears to us to be, that the most important among the arguments adduced by Schmidt, especially moreover the phonological argument which was the first we noticed, cannot be regarded as refuted so completely that Schmidt's theory has not the right to be considered at least as worthy of respect as the contrary doctrine. To pronounce a decisive opinion, if that will ever be possible, on such a question we must have a

<sup>1</sup> Ebel (quoted by Schmidt) Europe to a chain, the two extremities of which touch Asia.



more complete investigation of the characteristics common to two or more Indo-European languages, among which should be especially noticed the manifestly new formations which appear to be identical or similar in some of them. 18

With these reflections we conclude the second and last part of the present book. It appears from the former, as from this, that during the last decade has been continued with lively and persistent laboriousness the wonderful work of the preceding fifty years, at one time by new researches over the ground already explored, at another investigating portions not yet essayed, almost always with correct method and not unfrequently with very considerable success. We must not, however, conceal the fact, that the highest problems of Aryan philology cannot yet be regarded as solved. But the conquests it has so rapidly made in the realm of truth are undoubted pledges of more splendid future triumphs. Effective instruments of victory will be found especially in the accurate examination of the Vedic dialect, the investigation of the linguistic stocks most akin to the Aryan, the study of the sciences which are most closely allied to the science of language, especially of certain portions of physiology and true psychology, the fidelity to that strict method to which modern philology owes so much, and against which it has not rebelled and cannot rebel with impunity, and that pure and foreseeing love of the truth, which dissuades us with equal force from blind faith in the results of past investigations and the inconsiderate passion for unripe innovations.

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